SCAG
POWER EQUIPMENT

OPERATOR'S MANUAL

Cheetah

Models:
SCZ48V-22FX
SCZ48V-23CV
SCZ48V-23CV-EFI
SCZ48V-26BS
SCZ52V-23FX
SCZ52V-25CV
SCZ52V-25CV-EFI
SCZ52V-26BS

Congratulations on owning a Scag mower! This manual contains the operating instructions and safety information for your Scag mower. Reading this manual can provide you with assistance in maintenance and adjustment procedures to keep your mower performing to maximum efficiency. The specific models that this book covers are listed on the inside cover. Before operating your machine, please read all the information enclosed.

© 2013
Scag Power Equipment
Division of Metalcraft of Mayville, Inc.

PART NO. 03362
PRINTED 9/2013
PRINTED IN USA

⚠ WARNING

FAILURE TO FOLLOW SAFE OPERATING PRACTICES MAY RESULT IN SERIOUS INJURY OR DEATH.

- Read this manual completely as well as other manuals that came with your mower.
- DO NOT operate on steep slopes. To check a slope, attempt to back up it (with the cutter deck down). If the machine can back up the slope without the wheels slipping, reduce speed and use extreme caution.
- Under no circumstances should the machine be operated on slopes greater than 15 degrees. ALWAYS FOLLOW OSHA APPROVED OPERATION.
- Stay two cut widths away from slopes, drop offs, ditches and retaining walls.
- DO NOT mow on wet grass. Wet grass reduces traction and steering control.
- Keep all shields in place, especially the grass discharge chute.
- Before performing any maintenance or service, stop the machine and remove the spark plug wire and ignition key.
- If a mechanism becomes clogged, stop the engine before cleaning.
- Keep hands, feet and clothing away from power-driven parts.
- Keep others off the mower (only one person at a time)

REMEMBER - YOUR MOWER IS ONLY AS SAFE AS THE OPERATOR!

HAZARD CONTROL AND ACCIDENT PREVENTION ARE DEPENDENT UPON THE AWARENESS, CONCERN, PRUDENCE, AND PROPER TRAINING OF THE PERSONNEL INVOLVED IN THE OPERATION, TRANSPORT, MAINTENANCE, AND STORAGE OF THE EQUIPMENT.

This manual covers the operating instructions and illustrated parts list for:		
SCZ48V-22FX	with a serial number of	J9600001 to J9699999
SCZ48V-23CV	with a serial number of	J9700001 to J9799999
SCZ48V-23CV-EFI	with a serial number of	J9700001 to J9799999
SCZ48V-26BS	with a serial number of	K4400001 to K4499999
SCZ52V-23FX	with a serial number of	J9900001 to J9999999
SCZ52V-25CV	with a serial number of	K0000001 to K0099999
SCZ52V-25CV-EFI	with a serial number of	K0100001 to K0199999
SCZ52V-26BS	with a serial number of	K0200001 to K0299999
Always use the entire serial number listed on the serial number tag when referring to this product.		

Table of Contents

SECTION 1 - GENERAL INFORMATION....1
1.1 INTRODUCTION....1
1.2 DIRECTION REFERENCE....1
1.3 SERVICING THE ENGINE AND DRIVE TRAIN COMPONENTS....1
1.4 SYMBOLS....2
SECTION 2 - SAFETY INFORMATION....3
2.1 INTRODUCTION....3
2.2 SIGNAL WORDS....3
2.3 BEFORE OPERATION CONSIDERATIONS....3
2.4 OPERATION CONSIDERATIONS....4
2.5 ROLL-OVER PROTECTION SYSTEM....6
2.6 MAINTENANCE CONSIDERATIONS & STORAGE....8
2.7 USING A SPARK ARRESTOR....8
2.8 SPARK IGNITION SYSTEM....8
2.9 SAFETY AND INSTRUCTIONAL DECALS....9
SECTION 3 - SPECIFICATIONS....10
3.1 ENGINE....10
3.2 ELECTRICAL....10
3.3 POWER HEAD....10
3.4 CUTTER DECK....11
3.5 HYDRAULIC SYSTEM....11
3.6 WEIGHTS AND DIMENSIONS....11
3.7 PRODUCTIVITY....11
SECTION 4 - OPERATING INSTRUCTIONS....12
4.1 CONTROLS AND INSTRUMENT IDENTIFICATION....12
4.2 SAFETY INTERLOCK SYSTEM....14
4.3 INITIAL RUN-IN PROCEDURES....14
4.4 STARTING THE ENGINE....14
4.5 GROUND TRAVEL AND STEERING....14
4.6 ENGAGING THE DECK DRIVE (CUTTER BLADES)....16
4.7 HILLSIDE OPERATION....16
4.8 PARKING THE MOWER....16
4.9 AFTER OPERATION....17
4.10 REMOVING CLOGGED MATERIAL....17
4.11 MOVING MOWER WITH ENGINE STOPPED....17
4.12 RECOMMENDATIONS FOR MOWING....17
4.13 ADJUSTING CUTTING HEIGHT....18
4.14 ADJUSTING THE HEIGHT ADJUST PEDAL....18
4.15 ADJUSTING THE OPERATOR SUSPENSION PLATFORM....19
4.16 TOWING (OPTIONAL HITCH ACCESSORY)....19

SECTION 5 - TROUBLESHOOTING CUTTING CONDITIONS 20

SECTION 6 - ADJUSTMENTS 23
6.1 PARKING BRAKE ADJUSTMENT 23
6.2 TRAVEL ADJUSTMENTS 23
6.3 THROTTLE CONTROL AND CHOKE ADJUSTMENTS 25
6.4 BELT ADJUSTMENT 25
6.5 BELT ALIGNMENT 25
6.6 CUTTER DECK ADJUSTMENTS 25
6.7 CUSTOM-CUT BAFFLE ADJUSTMENT 27
6.8 ADJUSTING THE STEERING DAMPNERS 29
6.9 ELECTRIC CLUTCH ADJUSTMENT 29

SECTION 7 - MAINTENANCE 30
7.1 MAINTENANCE CHART - RECOMMENDED SERVICE INTERVALS 30
7.2 LUBRICATION 31
7.3 HYDRAULIC SYSTEM 33
7.4 ENGINE OIL 34
7.5 ENGINE FUEL SYSTEM 35
7.6 ENGINE AIR CLEANER 36
7.7 BATTERY 36
7.8 DRIVE BELTS 37
7.9 CUTTER BLADES 38
7.10 TIRES 39
7.11 BODY, DECK, AND UPHOLSTERY 39

SECTION 8 - ILLUSTRATED PARTS LIST 40
8.1 SCAG APPROVED ATTACHMENTS AND ACCESSORIES 40
48V & 52V CUTTER DECKS 42
CUTTER DECK CONTROLS 44
SHEET METAL COMPONENTS 46
SCZ ROLL-OVER PROTECTION SYSTEM 48
SCZ SEAT ASSEMBLY 50
SCZ SUSPENSION SYSTEM 52
SCZ STEERING COMPONENTS 54
SCZ DRIVE SYSTEM COMPONENTS 56
SCZ BRAKE COMPONENTS 58
SCZ HYDRAULIC SYSTEM 60
SCZ FUEL SYSTEM 62
SCZ ENGINE & ATTACHING PARTS 64
ZT-3400 TRANSAXLE ASSEMBLY 66
SCZ ELECTRICAL SYSTEM 68

SCZ EFI ELECTRICAL SYSTEM....70
REPLACEMENT DECALS AND INFORMATION PLATES....72
SCZ ELECTRICAL SCHEMATIC....74
LIMITED WARRANTY - COMMERCIAL EQUIPMENT....INSIDE BACK COVER

GENERAL INFORMATION

1.1 INTRODUCTION

Your mower was built to the highest standards in the industry. However, the prolonged life and maximum efficiency of your mower depends on you following the operating, maintenance and adjustment instructions in this manual.

If additional information or service is needed, contact your Scag Power Equipment Dealer.

We encourage you to contact your dealer for repairs. All Scag dealers are informed of the latest methods to service this equipment and provide prompt and efficient service in the field or at their service shop. They carry a full line of Scag service parts.

- IMPORTANT -

The replacement of any part on this product by other than the manufacturer's authorized replacement part may adversely affect the performance, durability or safety of this product.

Use of other than original Scag replacement parts will void the warranty.

When ordering parts, always give the model and serial number of your mower. The serial number plate is located on the frame between the engine and seat where shown in Figure 1-1.

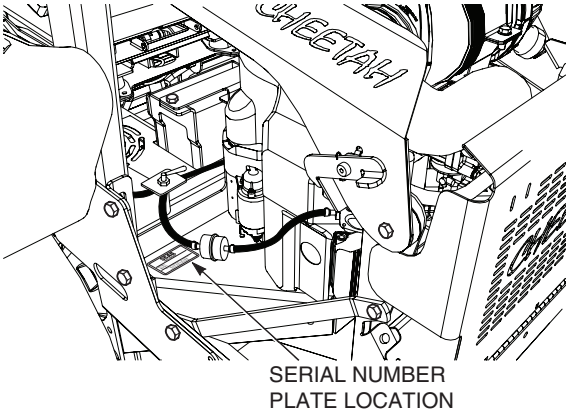


Figure 1-1. Mower Serial Number Plate Location

USE ONLY SCAG APPROVED ATTACHMENTS AND ACCESSORIES.

Attachments and accessories manufactured by companies other than Scag Power Equipment are not approved for use on this machine. See Section 8-1.

⚠ WARNING

For pictorial clarity, some illustrations and figures in this manual may show shields, guards or plates open or removed. Under no circumstances should your mower be operated without these devices in place.

All information is based upon product information available at the time of approval for printing. Scag Power Equipment reserves the right to make changes at any time without notice and without incurring any obligation.

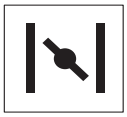
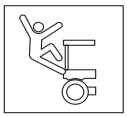
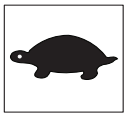
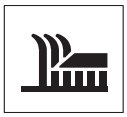
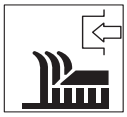
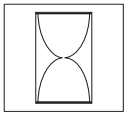
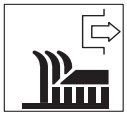
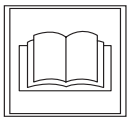
1.2 DIRECTION REFERENCE

The “Right” and “Left”, “Front” and “Rear” of the machine are referenced from the operator’s right and left when seated in the normal operating position and facing the forward travel direction.

1.3 SERVICING THE ENGINE AND DRIVE TRAIN COMPONENTS

Details regarding the service and repair of the engine, hydraulic pumps and gearboxes are not covered in this manual; only routine maintenance and general service instructions are provided. For service of these components during the limited warranty period, it is important to contact your Scag dealer or find a local authorized servicing agent of the component manufacturer. Any unauthorized work done on these components during the warranty period may void your warranty.

1.4 SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	Choke		Transmission
	Parking Brake		Spinning Blade
	On/Start		Spring Tension on Idler
	Off/Stop		Oil
	Falling Hazard		Thrown Object Hazard
	Fast		Slow
	Continuously Variable - Linear		Cutting Element - Basic Symbol
	Pinch Point		Cutting Element - Engage
	Hour meter/Elapsed Operating Hours		Cutting Element - Disengage
	Keep Bystanders Away		Read Operator's Manual

SAFETY INFORMATION

2.1 INTRODUCTION

Your mower is only as safe as the operator. Carelessness or operator error may result in serious bodily injury or death. Hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training of the personnel involved in the operation, transport, maintenance and storage of the equipment. Make sure every operator is properly trained and thoroughly familiar with all of the controls before operating the mower. The owner/user can prevent and is responsible for accidents or injuries occurring to themselves, other people or property.

READ THIS OPERATOR'S MANUAL AND WATCH THE TIPS FOR SAFE OPERATION OF YOUR SCAG ZERO-TURN MOWER VIDEO BEFORE ATTEMPTING TO START YOUR MOWER.

A replacement manual is available from your authorized Scag Service Dealer or by contacting Scag Power Equipment, Service Department at P.O. Box 152, Mayville, WI 53050 or contact us via the Internet at www.scag.com. The manual for this machine can be downloaded by using the model and serial number or use the contact form to make your request. Please indicate the complete model and serial number of your Scag product when requesting replacement manuals.

2.2 SIGNAL WORDS

This symbol means **"Attention! Become Alert! Your Safety is Involved!"** The symbol is used with the following signal words to attract your attention to safety messages found on the decals on the machine and throughout this manual. The message that follows the symbol contains important information about safety. To avoid injury and possible death, carefully read the message! Be sure to fully understand the causes of possible injury or death.

SIGNAL WORD:

It is a distinctive word found on the safety decals on the machine and throughout this manual that alerts the viewer to the existence and relative degree of the hazard.

⚠ DANGER

The signal word "DANGER" denotes that an extremely hazardous situation exists on or near the machine that could result in high probability of death or irreparable injury if proper precautions are not taken.

⚠ WARNING

The signal word "WARNING" denotes that a hazard exists on or near the machine that can result in injury or death if proper precautions are not taken.

⚠ CAUTION

The signal word "CAUTION" is a reminder of safety practices on or near the machine that could result in personal injury if proper precautions are not taken.

Your safety and the safety of others depends significantly upon your knowledge and understanding of all correct operating practices and procedures of this machine.

2.3 BEFORE OPERATION CONSIDERATIONS

⚠ WARNING

Check all hydraulic connections for tightness. Inspect all hydraulic hoses and / or lines to insure they are in good condition before operating.

1. NEVER allow children to operate this riding mower. Do not allow adults to operate this machine without proper instructions.
2. Do not mow when children and/or others are present. Keep children out of the mowing area and in the watchful care of a responsible adult other than the operator. Be alert and turn machine off if a child enters the area.

3. DO NOT allow children to ride or play on the machine, it is not a toy.
4. Clear the area to be mowed of objects that could be picked up and thrown by the cutter blades.
5. DO NOT carry passengers.
6. DO NOT operate the machine under the influence of alcohol or drugs.
7. If the operator(s) or mechanic(s) cannot read English or Spanish, it is the owner's responsibility to explain this material to them.
8. DO NOT wear loose fitting clothing. Loose clothing, jewelry or long hair could get tangled in moving parts. Do not operate the machine wearing shorts; always wear adequate protective clothing including long pants. Wearing safety glasses, safety shoes and a helmet is advisable and is required by some local ordinances and insurance regulations.

⚠ WARNING

Always wear hearing protection. Operating this machine over prolonged periods of time can cause loss of hearing.

9. Keep the machine and attachments in good operating condition. Keep all shields and safety devices in place. If a shield, safety device or decal is defective or damaged, repair or replace it before operating the machine.

⚠ WARNING

This machine is equipped with an interlock system intended to protect the operator and others from injury. This is accomplished by preventing the engine from starting unless the deck drive is disengaged, the parking brake is on, the steering control levers are in the neutral position and the operator is in the seat. The system shuts off the engine if the operator leaves the seat with the deck drive engaged and/or the steering control levers are not in the neutral position and the parking brake is not engaged. Never operate equipment with the interlock system disconnected or malfunctioning.

10. Be sure the interlock switches are functioning correctly.
11. Fuel is flammable; handle it with care. Fill the fuel tank outdoors. Never fill it indoors. Use a funnel or spout to prevent spillage. Clean up any spillage before starting the engine.
12. DO NOT add fuel to a running or hot engine. Allow the engine to cool for several minutes before adding fuel. Never fuel indoors or inside enclosed trailers.
13. See Section 7.5 ENGINE FUEL SYSTEM for fueling procedure.
14. Keep flammable objects (cigarettes, matches, etc.), open flames and sparks away from the fuel tank and fuel container. Use only approved containers.
15. Equipment must comply with the latest requirements per SAE J137 and/or ANSI/ASAE S279 when driven on public roads.

- NOTE -

If the mower is driven on public roads, it must comply with state and local ordinances as well as SAE J137 and/or ANSI / ASAE S279 requirements. Contact your local authorities for regulations and equipment requirements.

16. Do not operate without the side discharge chute installed and in the down position or with an optional grass catcher or mulch plate completely installed.
17. Check the blade mounting bolts at frequent intervals for proper tightness.
18. Make sure all hydraulic fluid connections are tight and all hydraulic hoses and lines are in good condition before starting the machine.

2.4 OPERATION CONSIDERATIONS

1. Know the function of all controls and how to stop quickly.

⚠ WARNING

DO NOT operate on steep slopes. To check a slope, attempt to back up it (with the cutter deck down). If the machine can back up the slope without the wheels slipping, reduce speed and use extreme caution. Under no circumstances should the machine be operated on slopes greater than 15 degrees. See Figure 2-2, Page 7 to determine approximate slope of area to be mowed. ALWAYS FOLLOW OSHA APPROVED OPERATION.

2. Reduce speed and exercise extreme caution on slopes and in sharp turns to prevent tipping or loss of control. Be especially cautious when changing directions on slopes.
3. Stay two cut widths away from slopes, drop offs, ditches and retaining walls.
4. To prevent tipping or loss of control, start and stop smoothly, avoid unnecessary turns and travel at reduced speed.
5. Immediately apply the parking brake if you lose steering control while operating. Inspect the machine and correct the problem before continuing to operate.
6. When using any attachment, never direct the discharge of material toward bystanders or allow anyone near the machine while in operation.
7. Before attempting to start the engine, with the operator in the seat, disengage power to the cutter deck, place the steering control levers in the neutral position and engage the parking brake.
8. If the mower discharge ever plugs, shut off the engine, remove the ignition key, and wait for all movement to stop before removing the obstruction.

⚠ WARNING

DO NOT use your hand to dislodge the clogged discharge chute. Use a stick or other device to remove clogged material after the engine has stopped running and the blades have stopped turning.

9. Be alert for holes, rocks, roots and other hidden hazards in the terrain. Keep away from any drop-offs. Beware of overhead obstructions (low limbs, etc.), underground obstacles (sprinklers, pipes, tree roots, etc.). Cautiously enter a new area. Be alert for hidden hazards.
10. Disengage power to cutter deck before backing up. Do not mow in reverse unless absolutely necessary and then only after observation of the entire area behind the mower. If you must mow in reverse, maintain a constant lookout to the rear of the machine and mow slowly.
11. DO NOT turn sharply. Use care when backing up.
12. Disengage power to cutter deck before crossing roads, walks or gravel drives.
13. Mow only in daylight or good artificial light.
14. NEVER raise the deck with the blades engaged.
15. Take all possible precautions when leaving the machine unattended, such as disengaging the mower, lowering the attachments, setting the parking brake, stopping the engine, and removing the key.
16. Disengage power to the attachments when transporting or when not in use.
17. The machine and attachments should be stopped and inspected for damage after striking a foreign object, and damage should be repaired before restarting and operating the machine.

⚠ CAUTION

Do not touch the engine or the muffler while the engine is running or immediately after stopping. These areas may be hot enough to cause a burn.

⚠ DANGER

DO NOT run the engine inside a building or a confined area without proper ventilation. Exhaust fumes are hazardous and contain carbon monoxide which can cause brain injury and death.

18. Keep hands and feet away from cutter blades and moving parts. Contact can injure.
19. Transport the mower using a heavy duty trailer or truck. Insure the trailer or truck has all of the necessary lighting and markings as required by laws, codes, and ordinances. Secure a trailer with a safety chain.
20. Be cautious when loading and unloading onto trailers or trucks. Use only a full width ramp. Ramp angle should be no more than 15 degrees. Back up the ramp and drive down forward.
21. When transporting the mower, make sure the park brake is engaged, the steering control levers are in the neutral position, the engine is off with the key removed, and the wheels have been blocked.
22. Tie the mower down securely using straps, chains, cable, or ropes. Both front and rear straps must be directed down and outward from machine.

23. Use care when approaching blind corners, shrubs, trees, or other objects that may obscure vision.
24. NEVER leave the machine running unattended.

2.5 ROLL-OVER PROTECTION SYSTEM

⚠ WARNING

Reduce speed when turning, operating on slopes, slick or wet surfaces. Allow extra distance to stop.

Stay off of slopes too steep for safe operation. To check a slope, attempt to back up it (with the cutter deck down). If the machine can not back up the slope without the wheels slipping, do not operate the machine on this slope. Under no circumstances should the machine be operated on slopes greater than 15 degrees. See Figure 2-2, Page 7 to determine approximate slope of area to be mowed.

Stay two cut widths away near drop-offs, ditches or embankments. The machine could suddenly roll over if a wheel goes over the edge or if the edge caves in.

Operate the machine smoothly, no sudden turns, starts or stops on a slope.

NEVER tow on slopes. The weight of the towed equipment may cause loss of traction and loss of control.

DO NOT permit untrained personnel to operate the machine.

Be cautious when loading and unloading onto trailers or trucks.

Use only a full width ramp.

Ramp angle should be no more than 15 degrees. See Figure 2-2, Page 7 to determine approximate ramp angle.

Back up the ramp and drive down forward.

This mower has been designed for good traction and stability under normal mowing conditions. However, caution must be used when traveling on slopes, especially when the grass is wet. Do not mow on wet grass. Wet grass reduces traction and steering control.

Any or all parts of the Roll-Over Protection System MUST NOT be removed. Failure to adhere to this guideline could result in injury or death.

FOLDABLE ROLL-OVER PROTECTION SYSTEM

⚠ WARNING

Keep the roll bar in the raised and locked position and the seat belt securely fastened during operation. Failure to do so could cause serious injury or loss of life.

Lower the roll bar only when absolutely necessary.

⚠ WARNING

There is no roll-over protection when the roll bar is in the down position.

Lower the roll bar only when absolutely necessary.

Raise the roll bar as soon as clearance permits.

DO NOT wear the seat belt when the roll bar is in the down position.

ALWAYS wear seat belt when roll bar is in the up position.

Operate the machine smoothly, no sudden turns, starts or stops.

Check the area carefully before mowing for proper overhead clearance (i.e. branches, doorways, etc.).

DO NOT contact any overhead object with the roll bar.

1. To lower the roll bar, remove the hairpin cotter pins and remove the two (2) lock pins. See Figure 2-1.
2. Lower the roll bar to the folded position. See Figure 2-1.
3. To raise the roll bar, lift the bar to the upright position.
4. Install the two (2) lock pins through the holes and secure with the two (2) hairpin cotter pins. See Figure 2-1.

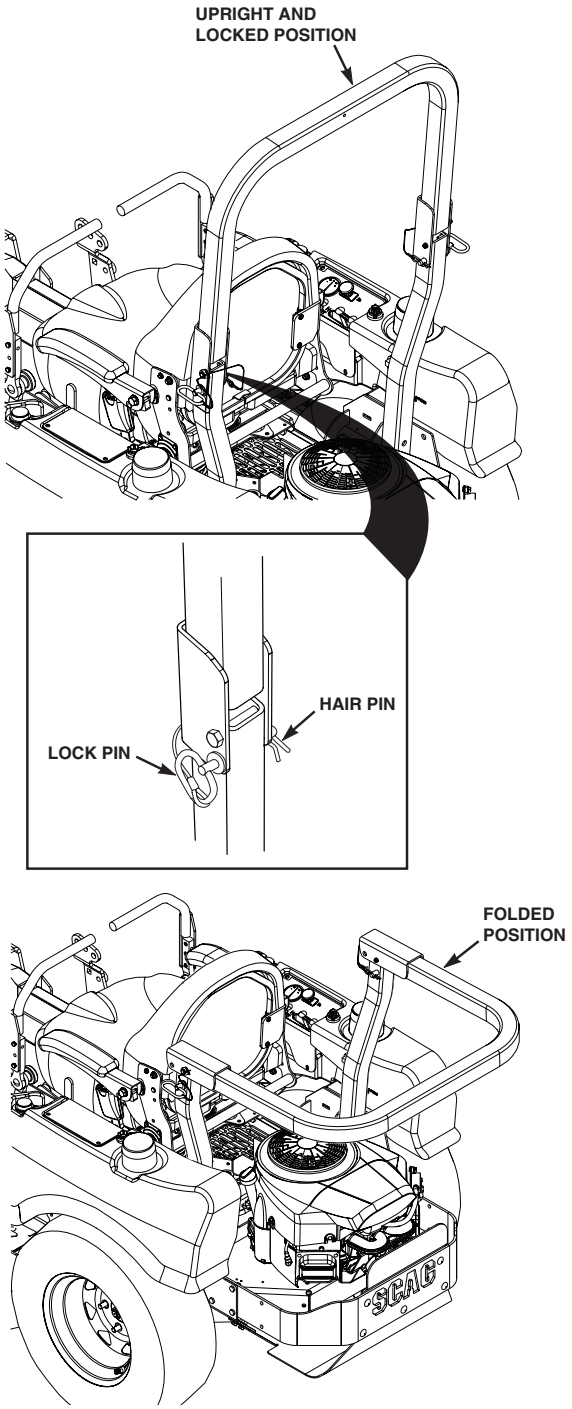


Figure 2-1. Foldable Roll-Over Protection System

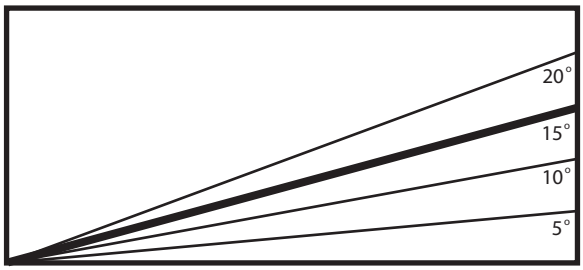


Figure 2-2. Slope Angle Graph

The potential exposure of the seat belt to severe environmental conditions makes it crucial to inspect the seat belt system regularly.

It is recommended that the seat belt be inspected on a daily basis for signs of damage. Any seat belt system that shows cuts, fraying, extreme or unusual wear, significant discoloration due to UV exposure, dirt or stiffness, abrasion to the seat belt webbing, or damage to the buckle, latch plate, hardware or any other obvious problem should be replaced immediately.

⚠ WARNING

Failure to properly inspect and maintain the seat belt can cause serious injury or loss of life.

1. Check the full length of the seat belt webbing for cuts, wear, fraying, dirt and stiffness. See Figure 2-3.
2. Check the seat belt webbing in areas exposed to ultra violet rays from the sun or extreme dust or dirt. If the original color of the webbing in these areas is extremely faded and/or is packed with dirt, the physical strength of this webbing may have deteriorated. If this condition exists, replace the seat belt system.
3. Check the buckle and latch for proper operation and determine if the latch plate is excessively worn, deformed, or if the buckle is damaged or cracked. See Figure 2-3.

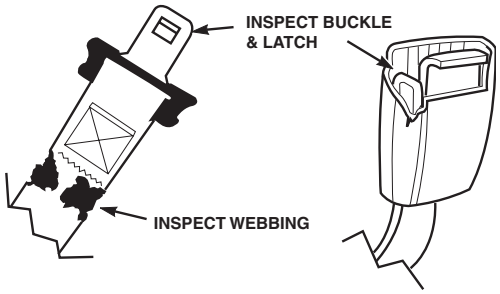


Figure 2-3. Seat Belt Inspection

2.6 MAINTENANCE CONSIDERATIONS & STORAGE

1. Never make adjustments to the machine with the engine running unless specifically instructed to do so. If the engine is running, keep hands, feet, and clothing away from moving parts.
2. Disengage drives, lower implement, set parking brake, stop engine and remove key or disconnect spark plug wire to prevent accidental starting of the engine when servicing or adjusting the machine. Wait for all movement to stop before adjusting, cleaning or repairing.
3. Disconnect battery or remove spark plug wire before making any repairs. Disconnect the negative terminal first and the positive last. Reconnect the positive first and the negative last.
4. Keep all nuts, bolts and screws tight, to ensure the machine is in safe working condition. Check blade mounting bolts frequently to be sure they are tight.
5. Do not change the engine governor settings or overspeed the engine. See the engine operator's manual for information on engine settings.
6. To reduce fire hazard, keep the cutting units, drives, muffler and engine free of grass, leaves, excessive grease, oil and dirt.
7. Park the machine on level ground and engage the parking brake.
8. NEVER allow untrained personnel to service the machine.
9. Use care when checking blades. Use a Blade Buddy, wrap the blade(s) or wear gloves and USE CAUTION when servicing blades. Only replace blades. NEVER straighten or weld blades.
10. Keep all parts in good working condition. Replace all worn or damaged decals.
11. Use jack stands to support components when required.
12. Carefully release pressure from components with stored energy.

⚠ WARNING

Hydraulic fluid is under high pressure and can penetrate skin causing injury. If hydraulic fluid is injected into the skin, it must be surgically removed within a few hours by a doctor or gangrene may result.

Keep body and hands away from pinholes or nozzles that eject hydraulic fluid under high pressure. Use paper or cardboard and not hands to search for leaks.

Safely relieve all pressure from the hydraulic system by placing the control levers in the neutral lock position and shutting off the engine before performing any work on the hydraulic system.

If you need service on your hydraulic system, please see your authorized Scag dealer.

13. Let the engine cool before storing.
14. DO NOT store the machine near an open flame.
15. Shut off fuel while storing or transporting.
16. DO NOT store fuel near flames or drain indoors.
17. Charge batteries in an open, well ventilated area, away from spark and flames. Unplug charger before connecting or disconnecting from battery. Wear protective clothing and use insulated tools.

2.7 USING A SPARK ARRESTOR

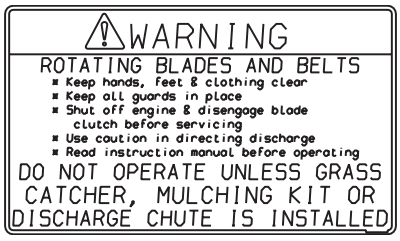
The engine in this machine is not equipped with a spark arrestor muffler. It is in violation of California Public Resource Code Section 4442 to use or operate this engine on or near any forest covered, brush covered or grass covered land unless the exhaust system is equipped with a spark arrestor meeting any applicable local or state laws. Other states or federal areas may have similar laws. Check with your state or local authorities for regulations pertaining to these requirements.

2.8 SPARK IGNITION SYSTEM

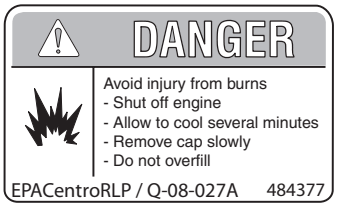
This spark ignition system complies with Canadian ICES-002.

2.9 SAFETY AND INSTRUCTIONAL DECALS

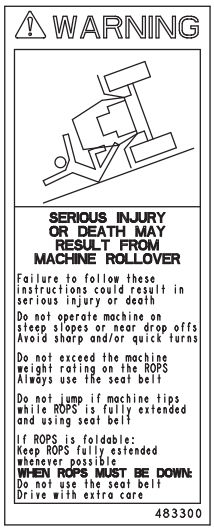
483407


WARNING
ROTATING BLADES AND BELTS
* Keep hands, feet & clothing clear
* Keep all guards in place
* Shut off engine & disengage blade clutch before servicing
* Use caution in directing discharge
* Read instruction manual before operating
DO NOT OPERATE UNLESS GRASS CATCHER, MULCHING KIT OR DISCHARGE CHUTE IS INSTALLED

483406

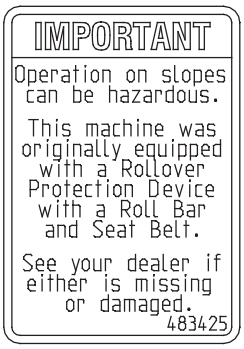


Molded in Fuel Tank

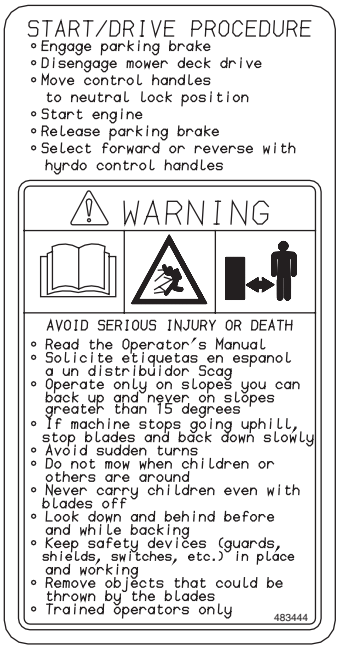

WARNING
SERIOUS INJURY OR DEATH MAY RESULT FROM MACHINE ROLLOVER
Failure to follow these instructions could result in serious injury or death
Do not operate machine on steep slopes or near drop offs Avoid sharp and/or quick turns
Do not exceed the machine weight rating on the ROPS Always use the seat belt
Do not jump if machine tips while ROPS is fully extended and using seat belt
If ROPS is foldable: Keep ROPS fully extended whenever possible
WHEN ROPS MUST BE DOWN:
Do not use the seat belt
Drive with extra care
483300

483300

482100


IMPORTANT
Operation on slopes can be hazardous.
This machine was originally equipped with a Rollover Protection Device with a Roll Bar and Seat Belt.
See your dealer if either is missing or damaged.
483425

483425

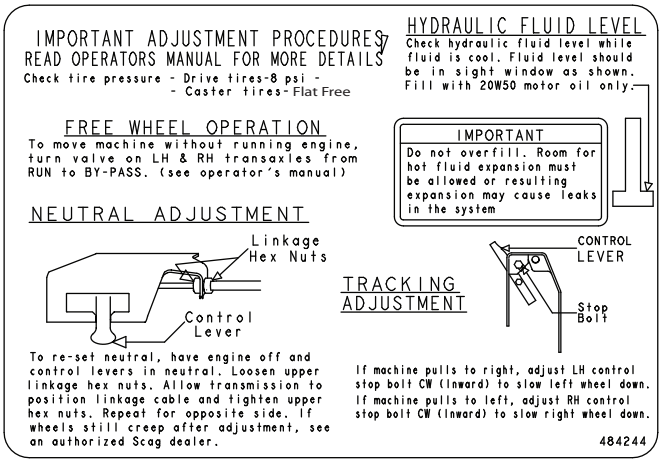

START/DRIVE PROCEDURE
∘ Engage parking brake
∘ Disengage mower deck drive
∘ Move control handles to neutral lock position
∘ Start engine
∘ Release parking brake
∘ Select forward or reverse with hyrdo control handles
WARNING
AVOID SERIOUS INJURY OR DEATH
∘ Read the Operator's Manual
∘ Solicite etiquetas en espanol a un distribuidor Scag
∘ Operate only on slopes you can back up and never on slopes greater than 15 degrees
∘ If machine stops going uphill, stop blades and back down slowly
∘ Avoid sudden turns
∘ Do not mow when children or others are around
∘ Never carry children even with blades off
∘ Look down and behind before and while backing
∘ Keep safety devices (guards, shields, switches, etc.) in place and working
∘ Remove objects that could be thrown by the blades
∘ Trained operators only
483444

484180

483402

WARNING
Operation of this equipment may create sparks that can start fires around dry vegetation. A spark arrestor may be required. The operator should contact local fire agencies for laws or regulations relating to fire prevention requirements.

483900
(supplied with California models only)


IMPORTANT ADJUSTMENT PROCEDURES
READ OPERATORS MANUAL FOR MORE DETAILS
Check tire pressure - Drive tires-8 psi -
- Caster tires- Flat Free
HYDRAULIC FLUID LEVEL
Check hydraulic fluid level while fluid is cool. Fluid level should be in sight window as shown. Fill with 20W50 motor oil only.
FREE WHEEL OPERATION
To move machine without running engine, turn valve on LH & RH transaxles from RUN to BY-PASS. (see operator's manual)
IMPORTANT
Do not overfill. Room for hot fluid expansion must be allowed or resulting expansion may cause leaks in the system
NEUTRAL ADJUSTMENT
Linkage Hex Nuts
Control Lever
To re-set neutral, have engine off and control levers in neutral. Loosen upper linkage hex nuts. Allow transmission to position linkage cable and tighten upper hex nuts. Repeat for opposite side. If wheels still creep after adjustment, see an authorized Scag dealer.
TRACKING ADJUSTMENT
CONTROL LEVER
Stop Bolt
If machine pulls to right, adjust LH control stop bolt CW (inward) to slow left wheel down.
If machine pulls to left, adjust RH control stop bolt CW (inward) to slow right wheel down.
484244

484244

2013 SCZ Safety Decals

SPECIFICATIONS

3.1 ENGINE

General Type ..... Heavy Duty Industrial/Commercial Gasoline
Engine Model:
- Scag Model SCZ48V-22FX ..... Kawasaki FX691V
- Scag Model SCZ48V-23CV ..... Kohler CV730
- Scag Model SCZ48V-23CV-EFI ..... Kohloer ECV730
- Scag Model SCZ48V-26BS 49L977
- Scag Model SCZ52V-23FX ..... Kawasaki FX730V
- Scag Model SCZ52V-25CV ..... Kohler CV740
- Scag Model SCZ52V-25CV-EFI ..... Kohler ECV740
- Scag Model SCZ52V-26BS 49L977

Displacement:
- Kawasaki 22FX (691FX) 726cc
- Kohler 23CV (CV730) 725cc
- Kohler 25CV (CV740) 725cc
- Kohler 23CV-EFI (ECV730) 747cc
- Kohler 25CV-EFI (ECV740) 747cc
- Kawasaki 23FX (730FX) 726cc
- Briggs & Stratton 26BS 810cc

Type: ..... 4-Cycle, Air-Cooled, Naturally Aspirated Gasoline, OHV
Cylinders ..... 2 with Cast Iron Sleeves
Governor ..... Mechanical Type with Variable Speed Control Set At 3600 RPM
Idle Speed:
- Briggs & Stratton ..... 1750 RPM
- Kohler ..... 1900 RPM
- Kawasaki ..... 1550 RPM

Fuel Pump ..... Integral Fuel Pump with In-Line Fuel Filter
Fuel ..... Non-Leaded Gasoline with a Minimum Octane Rating of 87
Oil Pump ..... Positive Displacement Gerotor™
Starter:
- Briggs & Stratton / Kawasaki FS ..... Electric Starting with Bendix Shift Starter
- Kohler / Kawasaki FX ..... Electric Starting with Solenoid Shift Starter

Belts ..... Kevlar cord. Self-adjusting, Self-tightening

3.2 ELECTRICAL

Charging System ..... Alternator
Charging Output:
- Briggs & Stratton ..... 12 Volt, 16 Amp
- Kohler ..... 12 Volt, 15 Amp
- Kawasaki ..... 12 Volt, 13 Amp

System Polarity ..... Negative Ground
Starter ..... 12 Volt Electric Ring Gear Type, Key and Solenoid Operated
Interlock Switches ..... Seat, Neutral Control, Mower Engagement (BBC), Parking Brake
Instrument Panel ..... Ammeter, Key Switch, Throttle Lever, Manual Choke, BBC Switch, Fuses and Check Engine Indicator (ECH740)
Fuses ..... Two (2) 20 Amp

3.3 POWER HEAD

Drive System ..... Hydraulic Drive with Two Hydro-Gear™ Integrated Zero-Turn Axles
- Scag Model (SCZ) ..... Hydro-Gear™ ZT-3400

Steering/Travel Control ..... Twin Lever Fingertip Steering Control with Individual Control to Each Wheel with Gas Spring Dampers

Parking Brake ..... Foot Pedal Actuated Linkage to Brakes on Both Drive Wheel Axles
Wheels:
(2) Front Caster - .....13 X 6.50
(2) Drive - ..... 23 X 9.5-12 Four-Ply Pneumatic Tubeless, Radius Edge
Tire Pressure:
Front Caster.....Flat Free
Drive ..... 12 PSI
Fuel Tank .....10-Gallon Total Capacity, (Dual) Seamless Roto-Low-Perm Tanks with Large Opening and Fuel Gauge
Seat ..... Padded, Thick Cushion with Tall Back Rest and Recline
Travel Speed.
Forward.....0 up to 10.5 MPH
Reverse .....0 up to 5 MPH
-NOTE- The machine will travel up to 10.5 mph for transport purposes. For best cutting performance the forward travel speed should be adjusted depending upon the cutting conditions.

3.4 CUTTER DECK

Type ..... Floating, Adjustable, Anti-Scalping, Hybrid Design Combines Out-Front and Belly-Mount Designs
Construction ..... Tri-plate deck construction
Top of deck consists of three steel plates totaling nearly 1/2" of steel,7-gauge (3/16") deck skirt.
True Cutting Width:
48V .....48" (122.0 cm)
52V .....52" (132.0 cm)
Cutting Height Adjustment.....Foot-Operated Lever Adjustment from Operator's Seat, 1.5" to 5" in 1/4"increments
Cutter Blades..... 0.197 in. Thick, Milled Edge, Wear Resistant Marbain™
Blade Engagement.....Electric Blade Engagement Clutch with Control Panel Switch
Connected to the Cutter Deck through a Belt.
Discharge Opening..... Extra Wide Discharge Opening with Spring-Loaded Discharge Chute and Turbo Baffle
Discharge Chute.....Black, Polypropylene (Plastic), Flexible
Spindles.....Heavy-Duty 1-1/8" Top Dimension Spindle Shaft, Cast Housing, Taper Roller Bearing,
Low Maintenance with Top Access Grease Fitting and Grease Overfill Relief Poppet
Spindle Pulleys ..... Split Steel with Easily Removed Taper Hubs
Cutter Deck Belts.....B-section and Cogged Type with Kevlar Cord. Self-Adjusting, Self-Tightening
Electric Clutch Type .....Ogura Heavy Duty PTO Clutch Brake

3.5 HYDRAULIC SYSTEM

Hydraulic Oil Filter ..... 40 Micron
Hydraulic Reservoir .....Nylon

3.6 WEIGHTS AND DIMENSIONS

	48V	52V
Length	81-3/4"	81-3/4"
Tracking Width	46-1/4"	49"
Overall Width w/chute down	61-1/4"	65-1/4"
Overall Width w/chute up	49-3/4"	53-3/4"
Overall Height w/ROPS (up on Folding Models)	67"	67"
Overall Height w/ROPS down (Folding Models)	48"	48"
Operating Weight w/ROPS	1075#	1080#

3.7 PRODUCTIVITY

	48V	52V
Cutting Width	48"	52"
Acres Per Day	18.6	20.2

The preceding data will aid you in determining how many acres your Scag mower will cut per day. The chart is an estimate based on 8 hours per day cutting time at 6 MPH with a 20% allowance for overlap and turns.

OPERATING INSTRUCTIONS

⚠ CAUTION

Do not attempt to operate this mower unless you have read this manual. Learn the location and purpose of all controls and instruments before you operate this mower.

4.1 CONTROLS AND INSTRUMENT IDENTIFICATION

Before operating the mower, familiarize yourself with all mower and engine controls. Knowing the location, function and operation of these controls is important for safe and efficient operation of the mower.

1. **Ignition Switch (Figure 4-1).** The ignition switch is used to start the engine and has three positions; OFF, ON, and START.
2. **Mower Deck Switch (Figure 4-1).** Used to engage and disengage the mower drive system. Pulling up on the switch will engage the deck drive. Pushing down on the switch will disengage the deck drive.
3. **Engine Choke Control (Figure 4-1).** Used to start a cold engine.
4. **Engine Throttle Control (Figure 4-1).** Used to control the engine speed. Pushing the lever forward increases engine speed. Pulling the lever back decreases engine speed. Full back position is the IDLE position. Full forward is the cutting position.
5. **Ammeter (Figure 4-1).** Indicates the condition of the charging system. When the engine is running the needle should be toward the positive end of the meter. If the needle is toward the negative end of the meter, this indicates a discharge condition and the machine should be taken in for service.

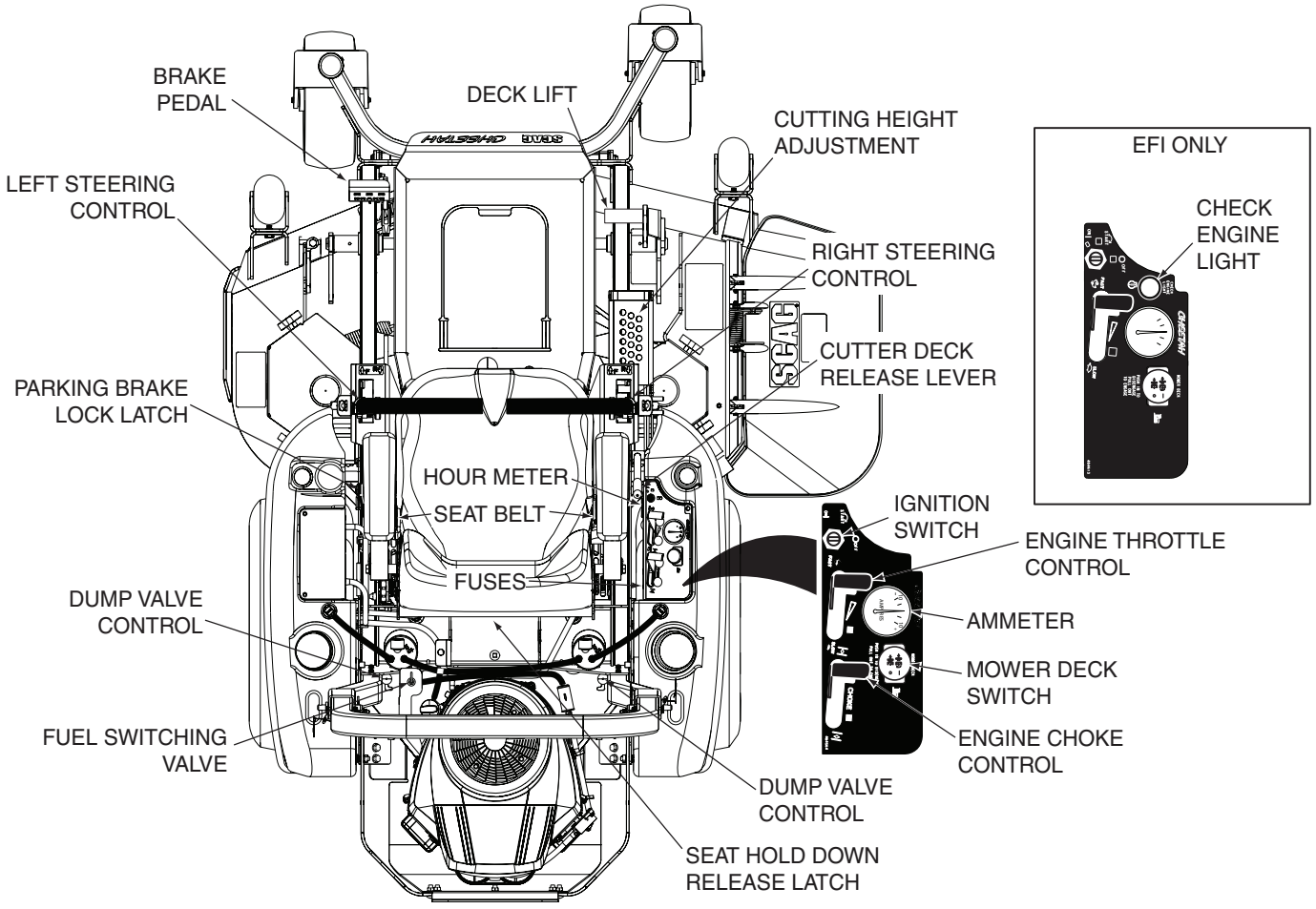


Figure 4-1. Controls and Instruments

6. **Hourmeter (Figure 4-1).** Indicates the number of hours the engine has been operated. It only operates when the engine is running. Has preset maintenance reminders for engine and hydraulic system oil changes. Will start flashing scheduled maintenance 2 hours before preset time and continue flashing until 2 hours after. Automatically resets.
7. **Fuse Holders (Figure 4-1).** Two 20-amp fuses protect the mower's electrical system. To replace fuses, pull fuse out of the socket and install a new fuse.
8. **Left Steering Control (Figure 4-1).** Used to control the mower's left wheel when traveling forward or reverse.
9. **Right Steering Control (Figure 4-1).** Used to control the mower's right wheel when traveling forward or reverse.
10. **Brake Pedal (Figure 4-1).** Depressing the brake pedal applies the brake.
11. **Parking Brake Lock Latch (Figure 4-1).** Used to lock the parking brake in the engaged position. Fully depress the brake pedal and pull the parking brake lock latch back to lock the parking brake in the engaged position. See Figure 4-2. Fully depress the brake pedal forward to disengage the parking brake lock latch, then release the brake pedal to disengage the brake. See Figure 4-3.

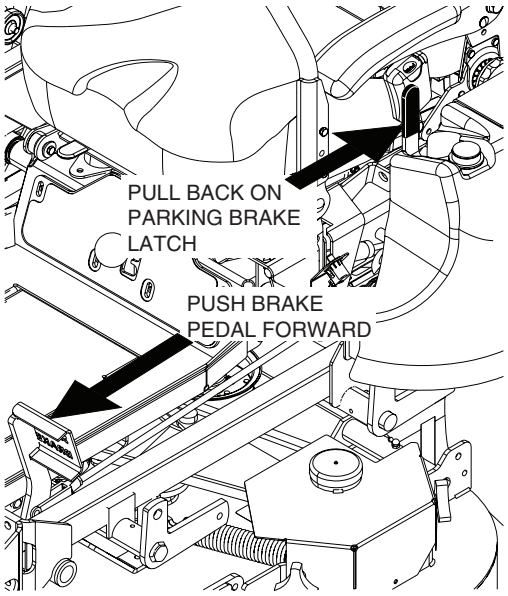


Figure 4-2. Engaging Parking Brake

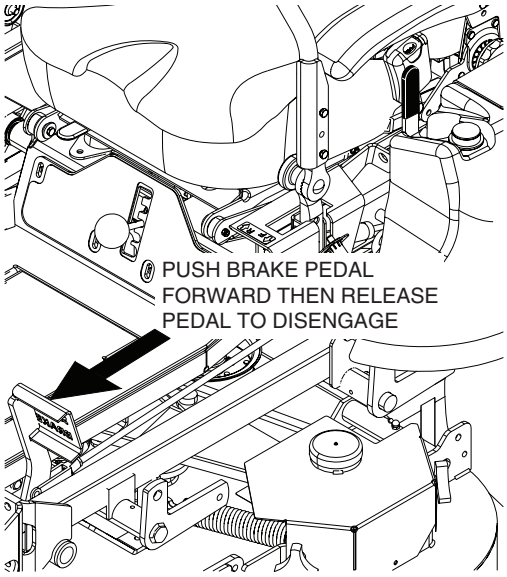


Figure 4-3. Releasing the Parking Brake

12. **Fuel Tank Gauge (Figure 4-1).** Indicates the amount of fuel in the fuel tank.
13. **Dump Valve Control Levers (Figure 4-1).** Located on the left and right side of the machine, used to "free-wheel" the mower. Move the levers forward until they stop allows the unit to move under hydraulic power. Move the levers back and towards the engine allows the mower to be moved by hand (free-wheeling). See Figure 4-4.

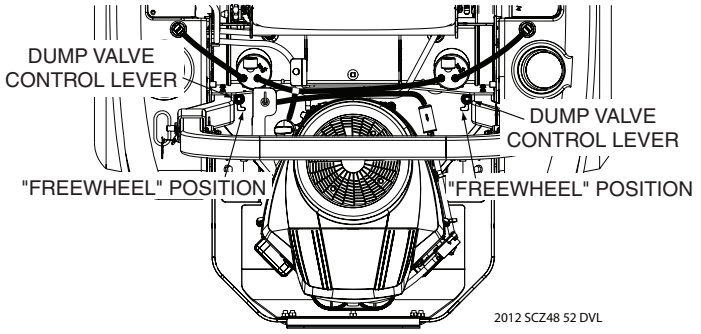


Figure 4-4. Dump Valve Control

14. **Deck Lift Foot Lever (Figure 4-1).** Used to raise and lower the cutter deck. Push full forward to lock in the transport position.
15. **Cutting Height Adjustment (Figure 4-1).** Used to set the cutter deck at the desired cutting height.
16. **Deck Release Lever (Figure 4-1).** Used to lock the cutter deck in the transport position. Push the foot pedal forward and pull back on the release lever to release the cutter deck for normal mowing.

17. **Suspension Control Lever (Figure 4-1).** Used to select the optimum suspension rate based on the operator.
18. **Seat Belt (Figure 4-1).** Used to secure the operator. Seat belt must be worn at all times when the ROPS is in the upright and locked position.
19. **Seat Hold Down Release Latch (Figure 4-1).** Located behind the seat. Used to secure the seat in the operator's position. Release the latch to gain access under the seat.
20. **Check Engine Light (Figure 4-1).** Indicates the operation of the engine sensors on the Fuel Injection Engines (EFI). If a problem occurs with a sensor on the engine, the light will flash a code. See your authorized Scag Dealer for diagnosis and repair.

4.2 SAFETY INTERLOCK SYSTEM

The mower is equipped with a safety interlock system that prevents the engine from starting unless the deck drive is disengaged, the parking brake is engaged, the steering control levers are in the neutral position and the operator is in the seat. The interlock system shuts off the engine if the operator leaves the seat with the steering control levers not in the neutral position and/or the cutter blades engaged and the parking brake not engaged.

⚠ WARNING

Never operate the mower with the interlock system disconnected or malfunctioning. Do not disengage or bypass any switch; injury to yourself and others or property damage could result.

4.3 INITIAL RUN-IN PROCEDURES

FIRST DAY OF USE OR APPROXIMATELY 20 HOURS

1. Check all belts for proper alignment and wear at 2, 4 and 8 hours.
2. Change the engine oil and oil filter after the first 20 hours of operation. (See Section 7.4.)
3. Check hydraulic oil level in reservoir. (See Section 7.3.)
4. Check for loose hardware. Tighten as needed.
5. Check interlock system for proper operation. (See Section 4.2.)
6. Check tire pressure. Adjust pressure if necessary. (See Section 7.10.)

4.4 STARTING THE ENGINE

⚠ CAUTION

DO NOT USE STARTING FLUIDS. Use of starting fluids in the air intake system may be potentially explosive or cause a "runaway" engine condition that could result in engine damage and/or personal injury.

1. Be sure the fuel shutoff valve, located behind the operator's seat, is fully open. (See Section 4.1.)
2. Secure the ROPS in the upright and locked position.
3. Sit in the operator's seat, fasten seat belt and place the steering control levers in the neutral position.
4. Engage the parking brake.
5. Place the PTO switch in the disengaged position.
6. If the engine is cold, choke the engine as needed.
7. Move the engine throttle control to about half engine speed.
8. Turn the ignition key to the START position and release the key as soon as the engine starts. Do not hold the key in the START position for more than 15 seconds at a time. Allow at least 60 seconds between each cranking attempt to prevent overheating of the starter motor. Prolonged cranking can damage the starter motor and shorten battery life.
9. Allow engine to warm before operating the mower.

4.5 GROUND TRAVEL AND STEERING

- IMPORTANT -

If you are not familiar with the operation of a machine with lever steering and/or hydrostatic transmissions, the steering and ground speed operations should be learned and practiced in an open area, away from buildings, fences, or obstructions.

Learn the operation on flat ground before operating on slopes.

Start practicing with a slow engine speed and slow forward travel.

Learn to feather the steering controls to obtain a smooth operating action.

Practice operating the mower until you are comfortable with the controls before proceeding to mow.

FORWARD TRAVEL

To travel forward with the mower, disengage the parking brake, pull levers inward out of the neutral lock position and slowly push the steering control levers forward an equal distance. The further the steering control levers are pushed forward the greater the forward speed will be. To increase the speed, push the steering control levers further forward and to decrease the speed, pull the steering control levers back.

To stop the forward travel, pull the steering control levers back to the neutral position.

To steer the mower left while traveling forward, pull the left steering lever back. The further the lever is pulled back, the quicker the mower will turn left.

To steer the mower right while traveling forward, pull the right steering control lever back. The further the lever is pulled back, the quicker the mower will turn right.

- NOTE -

Smooth operation of the steering levers will produce smooth mower operation. While learning the operation of the steering controls, keep the travel speed low.

- IMPORTANT -

Do not travel forward over a curb. The mower will hang up on the curb. Raise the deck and travel backwards over the curb at a 45 degree angle. (See Section 4.1, items 13 - 15, on page 14 for cutter deck raising descriptions.)

REVERSE TRAVEL

⚠ CAUTION

Disengage power to the mower before backing up. Do not mow in reverse unless absolutely necessary and then only after observation of the entire area behind the mower.

⚠ CAUTION

Before backing up, observe the rear for persons and obstructions. Clear the area before backing up. Possible injury or property damage could occur.

To travel in reverse, pull levers inward out of the neutral lock position and pull both handles back. Keep the travel speed low while traveling in reverse.

- NOTE -

The mower may not travel straight in reverse. Slight adjustments may need to be made using the steering controls.

To steer left while traveling in reverse, allow the left steering control lever to move forward. The further the control is allowed to move forward, the quicker the mower will turn left.

To steer right while traveling in reverse, allow the right steering control lever to move forward. The further the control is allowed to move forward, the quicker the mower will turn right.

To stop the reverse travel, allow the steering control levers to return to the neutral position. If the mower is to be parked, place the handles in the neutral lock position and engage the parking brake.

4.6 ENGAGING THE DECK DRIVE (CUTTER BLADES)

1. Set the throttle at about 3/4 speed. Do not attempt to engage the deck drive at high speed as this shortens the electric clutch life — use only moderate engine speed when engaging the deck drive.

⚠ DANGER

ROTATING BLADES

NEVER PUT YOUR HANDS INTO THE DISCHARGE CHUTE FOR ANY REASON!

Shut off the engine and remove the key and only then use a stick or similar object to remove material if clogging has occurred.

2. Engage the deck drive by pulling out on the yellow switch, located on the instrument panel, to the engage position. See Figure 4-5.

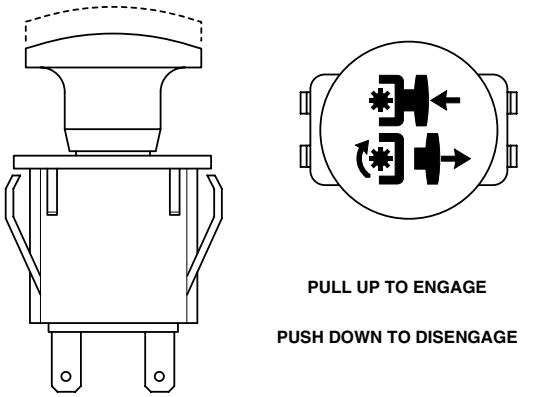


Figure 4-5. Cutter Engage Switch

- NOTE -

A squealing noise may be heard when engaging or disengaging the deck drive. It is caused by the electric clutch plates meshing as the mower comes up to speed. This is normal.

3. To disengage the deck drive, push the switch in to the disengage position.
4. Always operate the engine at full throttle to properly maintain cutting speed. If the engine starts to lug down, reduce the forward speed and allow the engine to operate at maximum RPM.

4.7 HILLSIDE OPERATION

⚠ WARNING

DO NOT operate on steep slopes. To check a slope, attempt to back up it (with the cutter deck down). If the machine can back up the slope without the wheels slipping, reduce speed and use extreme caution. Under no circumstances should the machine be operated on slopes greater than 15 degrees. See Figure 2-2, Page 7 to determine approximate slope of area to be mowed. ALWAYS FOLLOW OSHA APPROVED OPERATION.

1. This mower has been designed for good traction and stability under normal mowing conditions. However, caution must be used when traveling on slopes, especially when the grass is wet. Wet grass reduces traction and steering control. The Roll-Over Protection System is standard equipment for this machine. See Section 2.5, page 6 of this manual for further details.
2. Stay two cut widths away from slopes, drop offs, ditches and retaining walls.
3. To prevent tipping or loss of control, do not start or stop suddenly, avoid unnecessary turns and travel at reduced speed. If tires lose traction, disengage blades and proceed slowly off the slope.
4. Avoid sudden starts when mowing uphill. Sudden starts may cause the machine to tip backwards.
5. Loss of traction may occur when traveling down hill. Weight transfers to the front of the machine and may cause the drive wheels to slip causing loss of braking or steering.
6. Keep tires properly inflated.

4.8 PARKING THE MOWER

1. Park the machine on a flat, level surface only. Do not park the machine on an incline.
2. Place the steering control levers in the neutral position.
3. Disengage the cutter blades.
4. Slow the engine to idle speed.
5. Engage the parking brake.
6. Turn the ignition key to the OFF position and remove the key.

4.9 AFTER OPERATION

1. Wash the entire mower after each use. Do not use high pressure spray or direct the spray onto electrical components.

   - IMPORTANT -

   Do not wash a hot or running engine. Cold water will damage the engine. Use compressed air to clean the engine if it is hot.

2. Keep the entire mower clean to inhibit serious heat damage to the engine or hydraulic oil circuit.
3. Check the drive belts for proper alignment and any signs of wear. Correct and adjust if necessary.

⚠ DANGER

To avoid injury from burns, allow the mower to cool before removing the fuel tank cap and refueling.

4. Check the tire pressure. Adjust pressure if necessary.

4.10 REMOVING CLOGGED MATERIAL

⚠ DANGER

ROTATING BLADES

NEVER PUT YOUR HANDS INTO THE DISCHARGE CHUTE FOR ANY REASON!

Shut off the engine and remove the key and only then use a stick or similar object to remove material if clogging has occurred.

1. If the discharge chute becomes clogged, shut off the engine and remove the ignition key. Using a stick or similar item, dislodge the clogged material. Then resume normal mowing.

4.11 MOVING MOWER WITH ENGINE STOPPED

To “free-wheel” or move the mower around without the engine running, move the dump valve control levers back and towards the engine. See Figure 4-6. Disengage the parking brake and move the mower by hand. When the machine is in the desired position, engage the parking brake and forward until they stop. The dump valve levers must be returned to the DRIVE position to drive the mower.

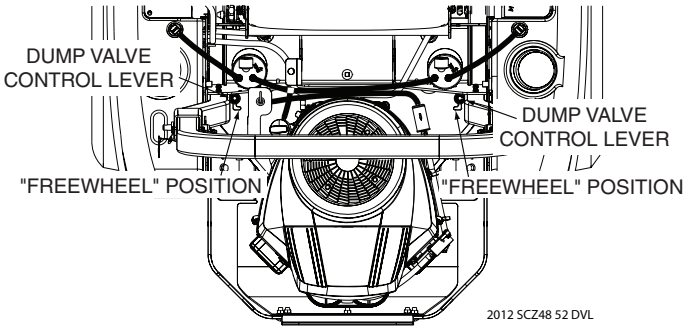


Figure 4-6. Dump Valve Control

4.12 RECOMMENDATIONS FOR MOWING

1. Do not mow with dull blades. A dull blade will tear grass, resulting in poor lawn appearance and reduced mowing power.

⚠ WARNING

DO NOT operate without Discharge Chute, Mulching Kit, or entire Grass Catcher properly installed.

2. The discharge chute must not be removed and must be kept in the lowest position to deflect grass clippings and thrown objects downward. Direct the side discharge away from sidewalks or streets to minimize cleanup of clippings. When mowing close to obstacles, direct the discharge away from the obstacles to reduce the chance of property damage by thrown objects. Do not mow when bystanders are present.
3. Cut grass when it is dry and not too tall. Do not cut grass too short (cut off 1/3 or less of existing grass for best appearance). Mow frequently.
4. Keep mower and discharge chute clean.

5. When mowing wet or tall grass, mow the grass twice. Raise the mower to the highest setting for the first pass and then make a second pass to the desired height.
6. Use a slow travel speed for trimming purposes.
7. Operate the engine at full throttle for best cutting. Mowing with a lower RPM causes the mower to tear the grass. The engine is designed to be operated at full speed.
8. Use the alternate stripe pattern for best lawn appearance. Vary the direction of the stripe each time the grass is mowed to avoid wear patterns in the grass.

4.13 ADJUSTING CUTTING HEIGHT

The mower deck can be adjusted from a height of 1-1/4 inch to 5 inches at 1/4-inch intervals. To adjust the cutting height:

⚠ WARNING

DO NOT adjust the cutting height with the mower blades rotating. Disengage the power to the cutter blades and then adjust cutting height.

1. Disengage the power to the cutter blades.
2. Push the cutting height adjustment foot pedal all the way forward using your right foot until it locks in place. See Figure 4-7.

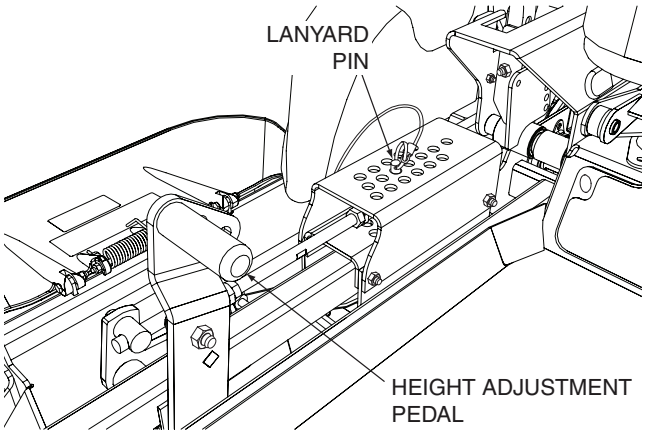


Figure 4-7. Adjusting Cutting Height

3. Insert the lanyard pin into the cutting height index at the desired cutting height. Push forward on the deck lift foot lever, hold in place and pull back on the deck release lever. See Figure 4-8. Slowly release the foot pedal. A deck height decal is located on the cutting height index as an aid in adjusting the deck to the desired height. See Figure 4-7.

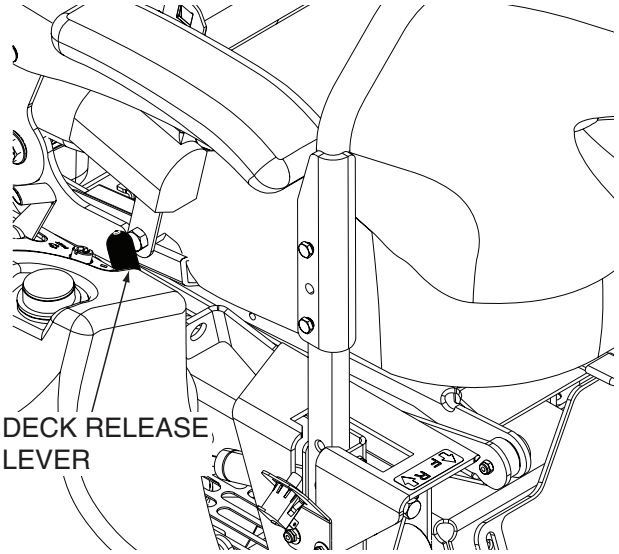


Figure 4-8. Deck Release Lever

4.14 ADJUSTING THE HEIGHT ADJUST PEDAL

1. Position the seat to the desired location.
2. While in the operator's position without the engine running, push down on the height adjust pedal to check for full function control.
3. The height adjust pedal can be located in three (3) different positions for operator comfort and control. See Figure 4-9.

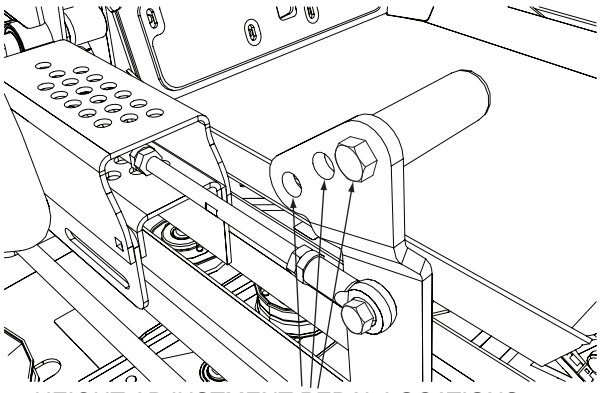


Figure 4-9. Height Adjust Pedal Locations

4.15 ADJUSTING THE OPERATOR SUSPENSION PLATFORM

The operator suspension platform can be adjusted to optimize operator comfort and ride. Adjust the suspension rate by moving the suspension control lever down to increase (stiffen) or up to decrease (soften) the suspension shock rate. See Figure 4-10.

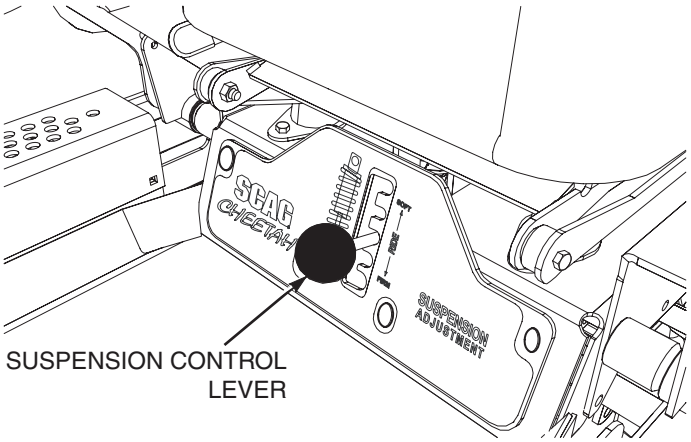
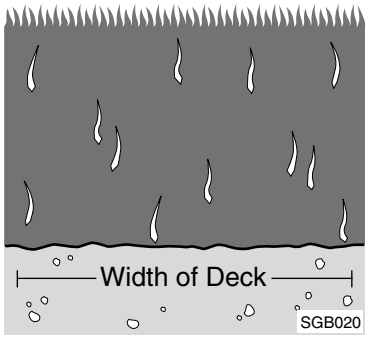
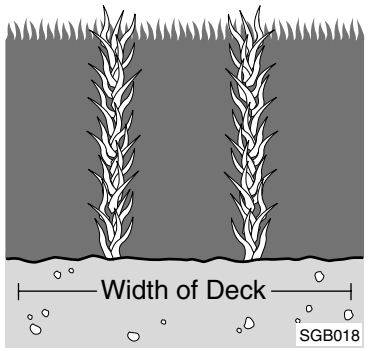
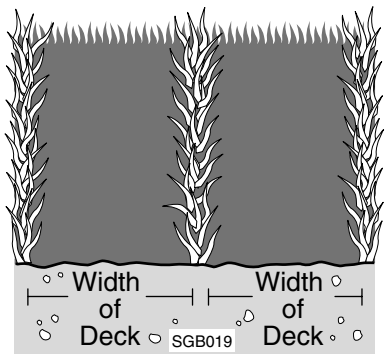


Figure 4-10. Operator Suspension Platform Adjustment

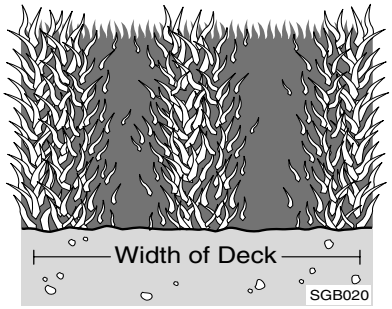
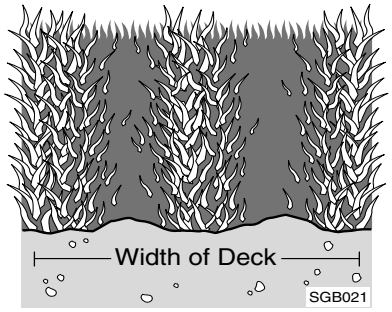
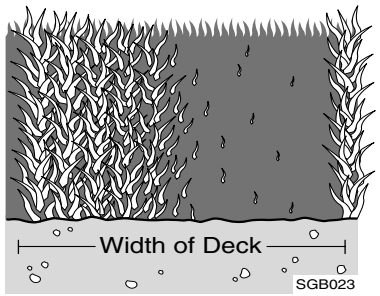
4.16 TOWING (OPTIONAL HITCH ACCESSORY)

1. NEVER allow children or others in or on towed equipment.
2. Tow only with a machine that has a hitch designed for towing. Do not attach towed equipment except at the hitch point.
3. Follow manufacturer's recommendations for weight limit for towed equipment. 250 lbs. maximum towing weight.
4. NEVER tow on slopes. The weight of the towed equipment may cause loss of traction and loss of control.
5. Travel slowly and allow extra distance to stop.
6. Zero-turning with a trailer attached could cause damage to the trailer or mower.

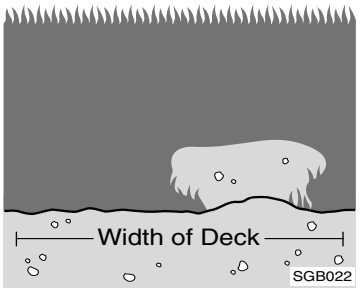
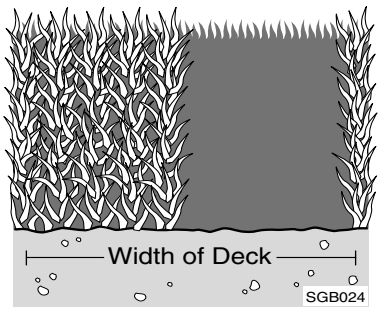
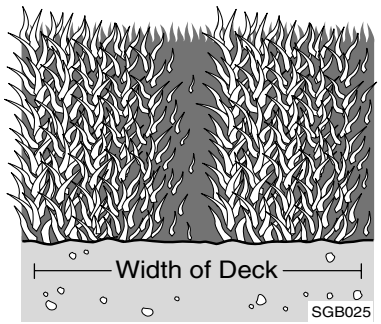
TROUBLESHOOTING CUTTING CONDITIONS

CONDITION	CAUSE	CURE
STRINGERS - OCCASIONAL BLADES OF UNCUT GRASS 	Low engine RPM	Run engine at full RPM
	Ground speed too fast	Slow speed to adjust for conditions
	Wet grass	Cut grass after it has dried out
	Dull blades, incorrect sharpening	Sharpen blades
	Deck plugged, grass accumulation	Clean underside of deck
	Belts slipping	Adjust belt tension
STREAKING - STRIPS OF UNCUT GRASS IN CUTTING PATH 	Dull, worn blades	Sharpen blades
	Incorrect blade sharpening	Sharpen blades
	Low engine RPM	Run engine at full RPM
	Belt slipping	Adjust belt tension
	Deck plugged, grass accumulation	Clean underside of deck
	Ground speed too fast	Slow speed to adjust for conditions
	Wet grass	Cut grass after it has dried out
	Bent blades	Replace blades
STREAKING - STRIPS OF UNCUT GRASS BETWEEN CUTTING PATHS 	Not enough overlapping between rows	Increase the overlap of each pass

TROUBLESHOOTING CUTTING CONDITIONS (CONT'D)

CONDITION	CAUSE	CURE
UNEVEN CUT ON FLAT GROUND - WAVY HIGH-LOW APPEARANCE, SCALLOPED CUT, OR ROUGH CONTOUR 	Lift worn from blade	Replace blade
	Blade upside down	Mount with cutting edge toward ground
	Deck plugged, grass accumulation	Clean underside of deck
	Too much blade angle (deck pitch)	Adjust pitch and level
	Deck mounted improperly	See your authorized SCAG dealer
	Bent spindle area	See your authorized SCAG dealer
	Dull blade	Sharpen blade
UNEVEN CUT ON UNEVEN GROUND-WAVY APPEARANCE, HIGH-LOW SCALLOPED CUT, OR ROUGH CONTOUR 	Uneven ground	May need to reduce ground speed, raise cutting height, and/or change direction of cut
SLOPING RIDGE ACROSS WIDTH OF CUTTING PATH 	Tire pressures not equal	Check and adjust tire pressure
	Wheels uneven	Check and adjust tire pressure
	Deck mounted incorrectly	See your authorized SCAG dealer
	Deck not level side-to side	Check for level and correct

TROUBLESHOOTING CUTTING CONDITIONS (CONT'D)

CONDITION	CAUSE	CURE
SCALPING - BLADES HITTING DIRT OR CUTTING VERY CLOSE TO THE GROUND 	Low tire pressures	Check and adjust pressures
	Ground speed too fast	Slow speed to adjust for conditions
	Cutting too low	May need to reduce ground speed, raise cutting height, change direction of cut, and/or change pitch and level
	Rough terrain	May need to reduce ground speed, raise cutting height, and/or change direction of cut
	Ground speed too fast	Slow speed to adjust for conditions
	Wet grass	Cut grass after it has dried out
STEP CUT - RIDGE IN CENTER OF CUTTING PATH 	Blades not mounted evenly	Adjust pitch and level
	Bent blade	Replace blade
	Internal spindle failure	See your authorized SCAG dealer
	Mounting of spindle incorrect	See your authorized SCAG dealer
SLOPE CUT - SLOPING RIDGES ACROSS WIDTH OF CUTTING PATH 	Bent spindle mounting area	See your authorized SCAG dealer
	Internal spindle failure	See your authorized SCAG dealer
	Bent deck housing	See your authorized SCAG dealer

ADJUSTMENTS

6.1 PARKING BRAKE ADJUSTMENT

⚠ WARNING

Do not operate the mower if the parking brake is not operable. Possible severe injury could result.

The parking brake linkage should be adjusted whenever the parking brake lock latch is placed in the “ENGAGE” position and the parking brake will not prevent the mower from moving. If the following procedures do not allow you to engage the parking brake properly, contact your Scag dealer for further brake adjustments.

1. Park the machine on a flat surface and block the caster wheels to prevent the machine from moving. Remove the ignition key.
2. Engage the parking brake. Fully depress the brake pedal and pull the parking brake lock latch back to lock the parking brake. See Figure 6-1.
3. Loosen the jam nut at the front of the brake linkage. See Figure 6-2.
4. With the parking brake in the locked position, turn the adjustment nut until the brake spring has an overall length of 2". See Figure 6-2.
5. Repeat steps 3 and 4 on the other side of the machine.
6. Test the parking brake.

- NOTE -

If this procedure does not achieve proper brake adjustment, please contact your authorized Scag dealer.

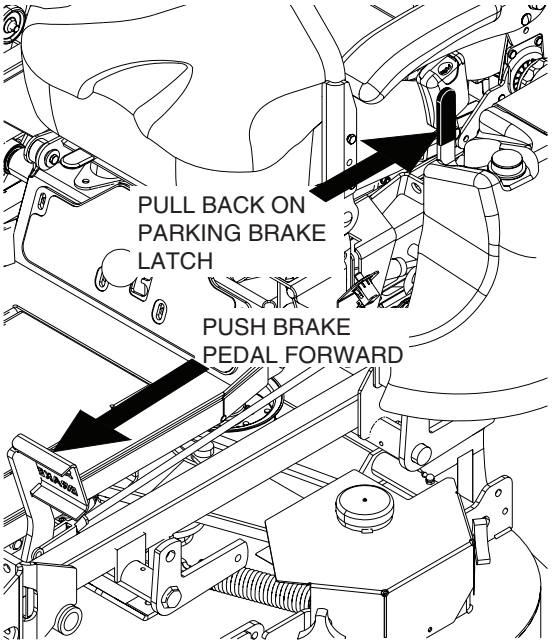


Figure 6-1. Brake Adjustment

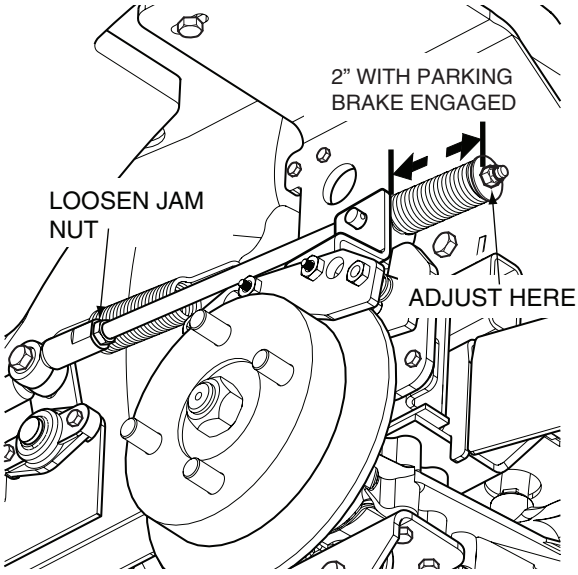


Figure 6-2. Brake Rod Adjustment

6.2 TRAVEL ADJUSTMENTS

Neutral or tracking adjustments will need to be made if:

A. The steering control levers are in the neutral position and the machine creeps forward or backward. (Neutral Adjustment).

B. The steering control levers are in the full forward position and the mower pulls to one side or the other when traveling in a forward direction. (Tracking Adjustment).

NEUTRAL ADJUSTMENT

1. Be sure the dump valve levers are in the run position and the steering control levers are in the neutral lock position.
2. With an operator in the seat, start the engine and disengage the parking brake.
3. Run the engine at full operating speed and check if the machine creeps forward or backwards.
4. Adjust the RH wheel by loosening the jam nuts on the steering control cable. Turn the jam nut until the control plates on the hydraulic axle are centered in the neutral position. See Figure 6-3.

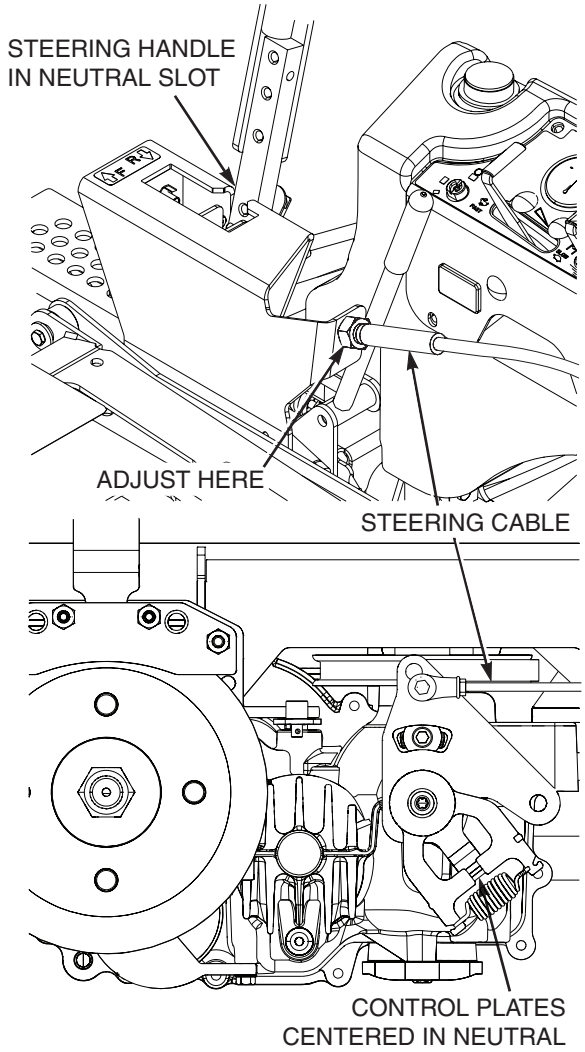


Figure 6-3. Steering Control Cable Adjustment

5. Tighten the jam nuts and repeat for the LH wheel. See Figure 6-3.
6. Actuate the steering control levers forward and reverse several times and return them to the neutral position.
7. Check that the drive wheels remained in neutral and readjust if necessary.
8. Check that the steering control levers hit the stop before the pumps reach full stroke. Adjust as needed.

TRACKING ADJUSTMENT

⚠ CAUTION

Stop the engine and remove the key from the ignition before making any adjustments. Wait for all moving parts to come to a complete stop before beginning work.

⚠ CAUTION

The engine and drive unit can get hot during operation causing burn injuries. Allow engine and drive components to cool before making any adjustments.

- NOTE -

Before proceeding with this adjustment, be sure that the caster wheels turn plus pivot freely and that the tire pressure in the drive wheels is correct. If the tire pressure is not correct, the machine will pull to the side with the lower pressure.

1. If at full speed the mower pulls right, it is an indication that the left wheel is turning faster than the right wheel. To adjust this condition, proceed as follows:

   A. Stop the machine and place the steering control levers in the neutral position. Turn the tracking adjustment bolt for the LH pump inward (clockwise). This will cause the control rod to stroke the LH pump less, slowing down the LH wheel. See Figure 6-4.

2. If at full speed the mower pulls left, it is an indication that the right wheel is turning faster than the left wheel. To adjust this condition, proceed as follows:

   A. Stop the machine and place the steering control levers in the neutral position. Turn the tracking adjustment bolt for the RH pump inward (clockwise). This will cause the control rod to stroke the RH pump less, slowing down the RH wheel. See Figure 6-4.

- NOTE -

If after making the adjustment as outlined in step 2A, the machine creeps forward or backward, perform the neutral adjustment. See Neutral Adjustment on page 24.

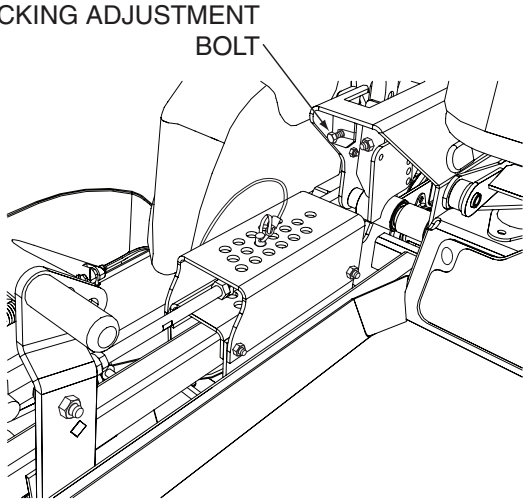


Figure 6-4. Tracking Adjustment

6.3 THROTTLE CONTROL AND CHOKE ADJUSTMENTS

These adjustments must be performed by your Scag dealer to ensure proper and efficient running of the engine. Should either need adjustment, contact your authorized Scag service center.

6.4 BELT ADJUSTMENT

⚠ WARNING

Before removing any guards, shut the engine off and remove the ignition key.

All drive belts are spring loaded and self-tensioning, however after the first 2, 4, 8 and 10 hours of operation, the belts should be checked for proper alignment and wear. Thereafter, check the belts after every 40 hours of operation or weekly, whichever occurs first.

⚠ WARNING

If the pump drive belt fails, steering control will be lost which could result in serious injury or death. Replace the pump drive belt as needed or every 400 hours / 2 years, whichever occurs first.

6.5 BELT ALIGNMENT

Belt alignment is important for proper performance of your Scag mower. If you experience frequent belt wear or breakage, see your authorized Scag service center for belt adjustment.

6.6 CUTTER DECK ADJUSTMENTS

Cutter deck level, pitch and height are set at the factory. However, if these adjustments should ever need to be made, the following procedures will aid in obtaining the proper cutter deck adjustment.

- NOTE -

Before proceeding with the cutter deck adjustments, be sure that all tires are properly inflated.

CUTTER DECK LEVEL

The cutter deck should be level from side-to-side for proper cutting performance. To check for level, be sure that the mower is on a flat, level surface, the tires are properly inflated and the cutter deck is set at the most common cutting height that you will use. On the RH side of the machine, check the distance from the top of the cutter deck to the floor. Next check the distance from the top of the cutter deck to the floor on the LH side of the machine. Both measurements should be the same. If the two measurements are different, the cutter deck level must be adjusted as follows:

1. On the front LH side of the cutter deck locate the cutter deck level adjusting bracket. See Figure 6-5.

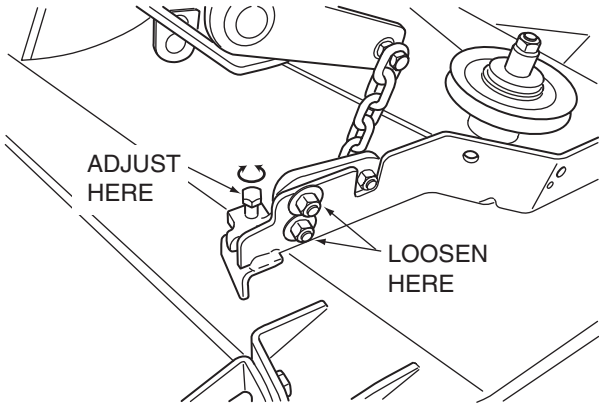


Figure 6-5. Cutter Deck Level Adjustment

2. Loosen the two (2) elastic stop nuts. Adjust the bolt up or down on the adjustment bracket to adjust the cutter deck until the distance from the top of the cutter deck to the floor is the same as the measurement on the RH side of the machine.
3. Tighten the two (2) elastic stop nuts to secure the cutter deck in the proper position.

CUTTER DECK PITCH

The pitch of the cutter deck should be equal between the front and rear of the cutter deck for proper cutting performance. To check for proper deck pitch, be sure that the mower is on a flat, level surface and the tires are properly inflated.

Check the distance from the top of the cutter deck to the floor at the rear RH side of the cutter deck directly behind the cutter deck hanging chains. Next check the distance from the top of the cutter deck to the floor at the front RH side of the cutter deck directly in front of the cutter deck hanging chains. The measurement at the front of the cutter deck should be the same as the rear of the deck. Make these measurements at the LH side of the cutter deck also. If the measurement at the front of the deck is not the same, the cutter deck pitch must be adjusted as follows:

1. Loosen the jam nut on both adjusting rods. See Figure 6-6.

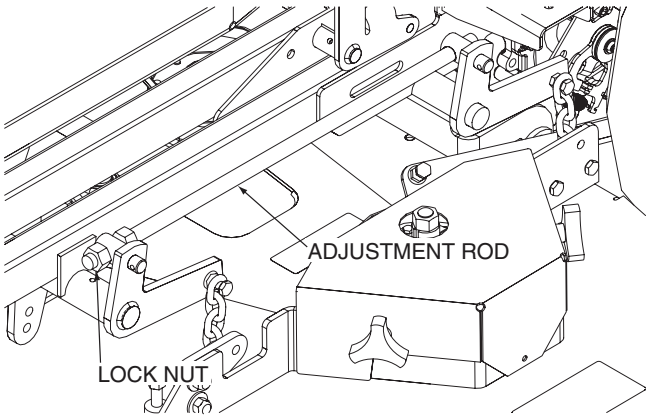


Figure 6-6. Cutter Deck Level Adjustment

2. Using an adjustable jaw pliers, turn the adjusting rods on the non-threaded portion of the rod until the deck is equal front to back on both the RH and the LH side of the cutter deck. Tighten both lock nuts.

- NOTE -

To prevent the cutter deck from teetering, all four (4) cutter deck hanging chains must have tension on them. If all four chains do not have tension on them and the deck teeters, you must readjust the cutter deck as outlined in the procedures above. All measurements should be taken from the top edge of the deck as the Velocity Plus decks have an uneven bottom edge.

CUTTER DECK HEIGHT

The cutter deck height adjustment is made to ensure that the cutter deck is cutting at the height indicated on the cutting height index gauge. To check for proper deck height, be sure that the mower is on a flat, level surface and the tires are properly inflated.

1. Check the cutter deck cutting height by placing the lanyard pin in the 4-1/2" position on the cutting height index. Release the deck from the transport position and allow the deck to move to the 4-1/2" cutting height position.
2. Check the measurement from the floor to the cutter blade tip. If the measurement is not at 4-1/2", an adjustment can be made using the deck height control rod.
3. Loosen the jam nuts on both ends of the deck height control rod. See Figure 6-7.

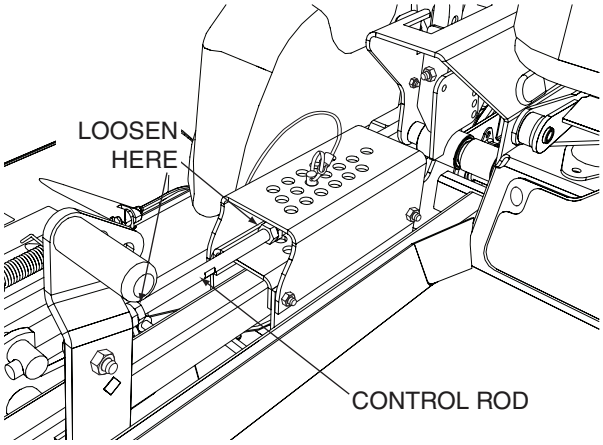


Figure 6-7. Cutter Deck Height Adjustment

4. Turn the control rod (See Figure 6-7) until the measurement from the floor to the cutter blade tip is at 4-1/2". Tighten the jam nuts on the control rod.

- NOTE -

If an adjustment had to be made, be sure that the cutter deck can easily be locked into the transport position.

6.7 CUSTOM-CUT BAFFLE ADJUSTMENT

The Custom-Cut Baffle is designed to deliver optimum airflow and superior cutting performance in any type of grass. The Custom-Cut Baffle can be raised or lowered to precisely tailor the deck's performance for the type of grass being cut. The baffle can be set in seven (7) different positions for optimum performance.

A. 3-1/2" or 3-3/4" Position - (See Figure 6-8). For very tall, wiry or tough-to-cut grass.

B. 4" (factory setting), 4-1/4" or 4-1/2" Position - (See Figure 6-8). For general purpose cutting. This gives the best mix of cutting performance in all types of grass.

C. 4-3/4" or 5-1/4" Position - (See Figure 6-8). Placing the baffle in either the 4-3/4" or 5-1/4" setting will enhance fall cutting (leaf pickup) and reduce cutter deck "blowout".

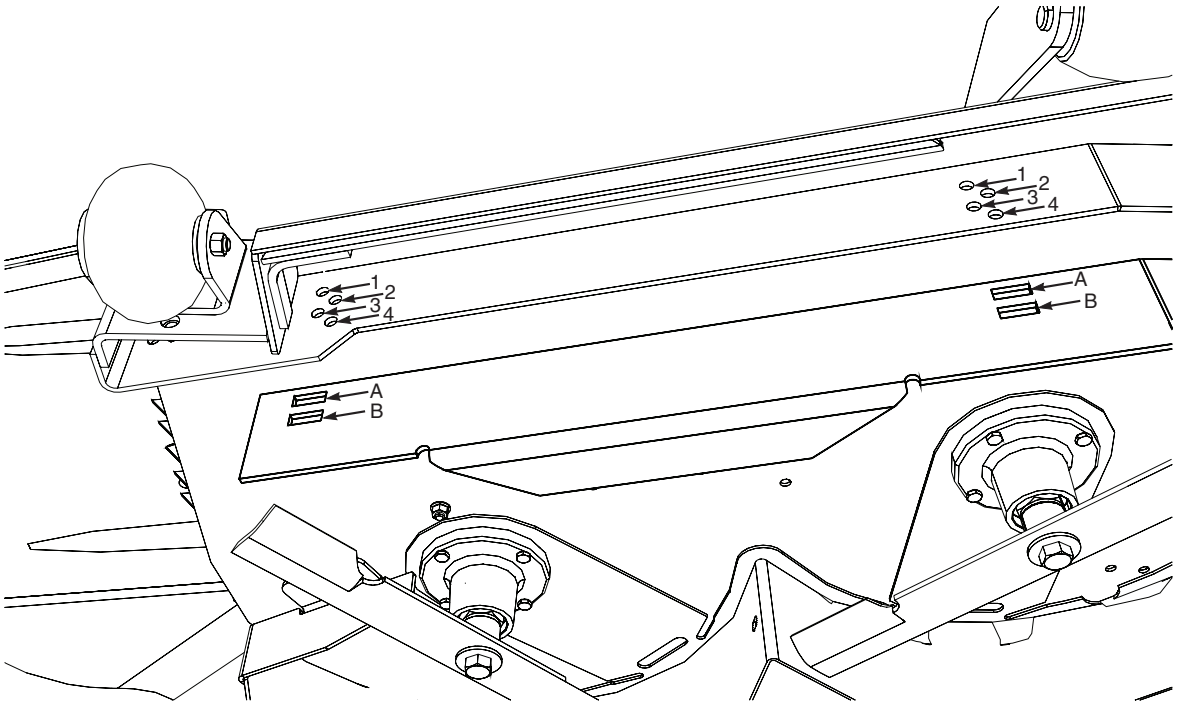
To adjust the Custom-Cut Baffle height:

1. Place the cutter deck in the transport position.
2. Remove the hardware securing the Custom-Cut Baffle to the cutter deck.

- NOTE -

Hardware location used in the illustrations are for reference only. Location of hardware may vary depending on cutter deck size.

3. Move the Custom-Cut Baffle to desired position. See Figure 6-8.
4. Reinstall the mounting hardware. Torque hardware to 39 ft-lbs.



Custom-Cut Baffle Adjustment

Mounting Slot Selected		Mounting Hardware Location		
Slot “A”	Hole 1	Hole 2	Hole 3	Hole 4
Height (inches)	3-3/4”	4-1/4”	4-3/4”	5-1/4”
Slot “B”		Hole 2	Hole 3	Hole 4
Height (inches)		3-1/2”	4”	4-1/2”

Figure 6-8. 7-Position Custom-Cut Baffle Adjustment

6.8 ADJUSTING THE STEERING DAMPNERS

The steering dampner adjustment can be made to increase or decrease the dampening affect for smooth, precise steering control. There are three locations on the steering control levers that allow the operator to adjust the dampening affect of the steering control based on cutting conditions.

1. **Top Mounting Location (Figure 6-9).** Used for the highest dampening affect on the steering controls.
2. **Middle Mounting Location (Figure 6-9).** Used for average dampening affect on the steering controls.
3. **Bottom Mounting Location (Figure 6-9).** Used for the lowest dampening affect on the steering controls.

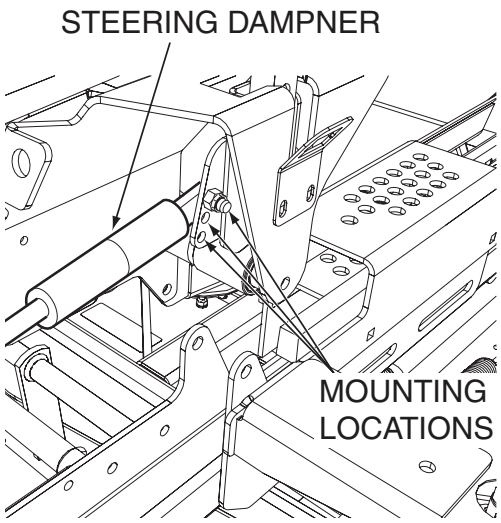


Figure 6-9. Steering Dampner Adjustment

6.9 ELECTRIC CLUTCH ADJUSTMENT

The electric clutch serves two functions in the operation of the mower. In addition to starting and stopping the power flow to the cutter blades, the clutch also acts as a brake to assist in stopping blade rotation when the PTO is switched off or the operator presence circuit is interrupted.

When the clutch is disengaged, the air gap between the armature and rotor must be adjusted to fifteen thousandths of an inch, 0.015, for proper operation. The airgap adjustment is made at three bolts on the clutch. There are three inspection windows, one next to each adjusting bolt. See Figure 6-10.

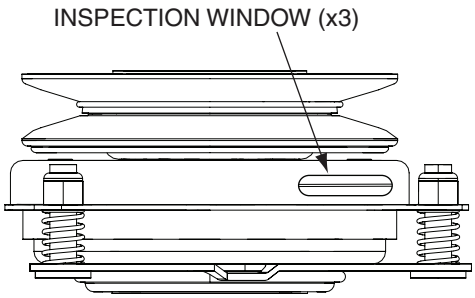


Figure 6-10. Clutch Air Gap Adjustment

1. Locate the inspection windows on the clutch.
2. Place a 0.015 feeler gauge in the slot between the rotor and the armature.
3. Tighten or loosen the adjusting bolt as needed to acheive the 0.015 inch airgap. See Figure 6-11. Perform this operation at all three inspection windows.

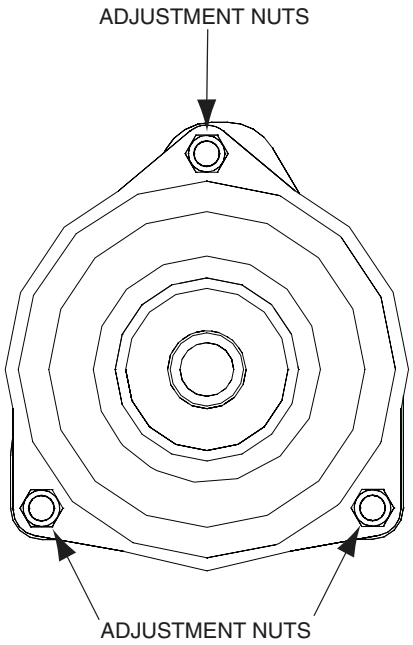


Figure 6-11. Clutch Air Gap Adjustment

This adjustment should be done every 500 hours of operation or annually, whichever comes first. In cases where the machine is heavily used, airgap settings should be checked more often.

If the air gap is too narrow, the clutch armature may drag when disengaged, resulting in premature failure.

If the air gap is too wide, the clutch may be slow to engage as the magnet must pull the armature in from a greater distance.

MAINTENANCE

7.1 MAINTENANCE CHART - RECOMMENDED SERVICE INTERVALS

HOURS							PROCEDURE	COMMENTS
BREAK-IN (FIRST 10)	8	20	40	100	200	500		
X							Check all hardware for tightness	
X							Check hydraulic oil level	See paragraph 7.3
X							Check all belts for proper alignment	See paragraph 7.8
X							Change engine oil and filter	See paragraph 7.4
	X						Check hydraulic fittings and hoses for leaks	Use extreme caution when checking the hydraulic hoses. See paragraph 2.6
	X						Check engine oil level	See paragraph 7.4
	X						*Clean mower	See paragraph 7.12
	X						Check condition of blades	See paragraph 7.9
	X						Apply grease to fittings	See paragraph 7.2
	X						Check tire pressure	See paragraph 7.10
	X						Inspect seat belt for wear or damage	See paragraph 2.5
	X						Check the operator interlock system	See paragraph 4.2
		X					Change engine oil and filter	See paragraph 7.4
			X				Check battery and clean battery posts and cables	See paragraph 7.7
			X				Inspect pump drive belt. Replace every 400 hours or 2 years, whichever occurs first	See paragraph 6.4 & 7.8
			X				Check belts for proper alignment	See paragraph 7.8
				X			Check conditions of fuel lines	
				X			Drain hydraulic system and replace hydraulic oil (initial change)	Use SAE 20W50 Motor Oil. See paragraph 7.3
				X			Apply grease to fittings	See paragraph 7.2
				X			Change engine oil	See paragraph 7.4
				X			*Clean air cleaner element	See paragraph 7.6

* Perform these maintenance procedures more frequently under extreme dusty or dirty conditions

MAINTENANCE CHART - RECOMMENDED SERVICE INTERVALS (CONT'D)

HOURS						PROCEDURE	COMMENTS
BREAK-IN (FIRST 10)	8	40	100	200	500		
				X		Apply grease to fittings	See paragraph 7.2
				X		Check hardware for tightness	
				X		Change engine oil filter	See paragraph 7.4
				X		Check hydraulic oil level	See paragraph 7.3
					X	Replace engine fuel filter	See paragraph 7.5
					X	Drain hydraulic system and replace hydraulic oil	Use SAE 20W50 Motor Oil. See paragraph 7.3
					X	Replace hydraulic oil filter	See paragraph 7.3
					X	Adjust electric PTO clutch	See Scag Dealer

7.2 LUBRICATION

GREASE FITTING LUBRICATION CHART (SEE FIGURE 7-1)

LOCATION	LUBRICATION INTERVAL	LUBRICANT	NO. OF PLACES
1 Caster Wheel Pivot *	500 Hours/Yearly	Chassis Grease	2
2 Caster Wheel Bearings	100 Hours/Monthly	Chassis Grease	2
3 Cutter Deck Spindle	40 Hours/Weekly	+Lithium MP White Grease 2125	3
4 Cutter Deck Bellcranks	100 Hours/Bi-Weekly	Chassis Grease	4
5 Cutter Deck Pusharms	100 Hours/Bi-Weekly	Chassis Grease	2

+ Compatible Greases:
Mobilix #2 found at Mobil Service Stations
Ronex MP found at Exxon Service Stations
Super Lube MEP #2 & Super Stay-M #2 found at Conoco Stations
Shell Alvania #2 found at Shell Service Stations
Lidok EP #2 found at industrial shops
Timken Lithium Multi-Use #2 found at industrial shops

* **PROCEDURE:** Remove grease cap, part number 484195. Remove plug, part number 482028-01, and install grease zerk. Apply grease to the fitting until new grease appears at the top of the caster extension. Remove the grease zerk and reinstall the plug. Reinstall the grease cap. Special tool, part number 47007, is recommended for use in the installation of the grease cap.

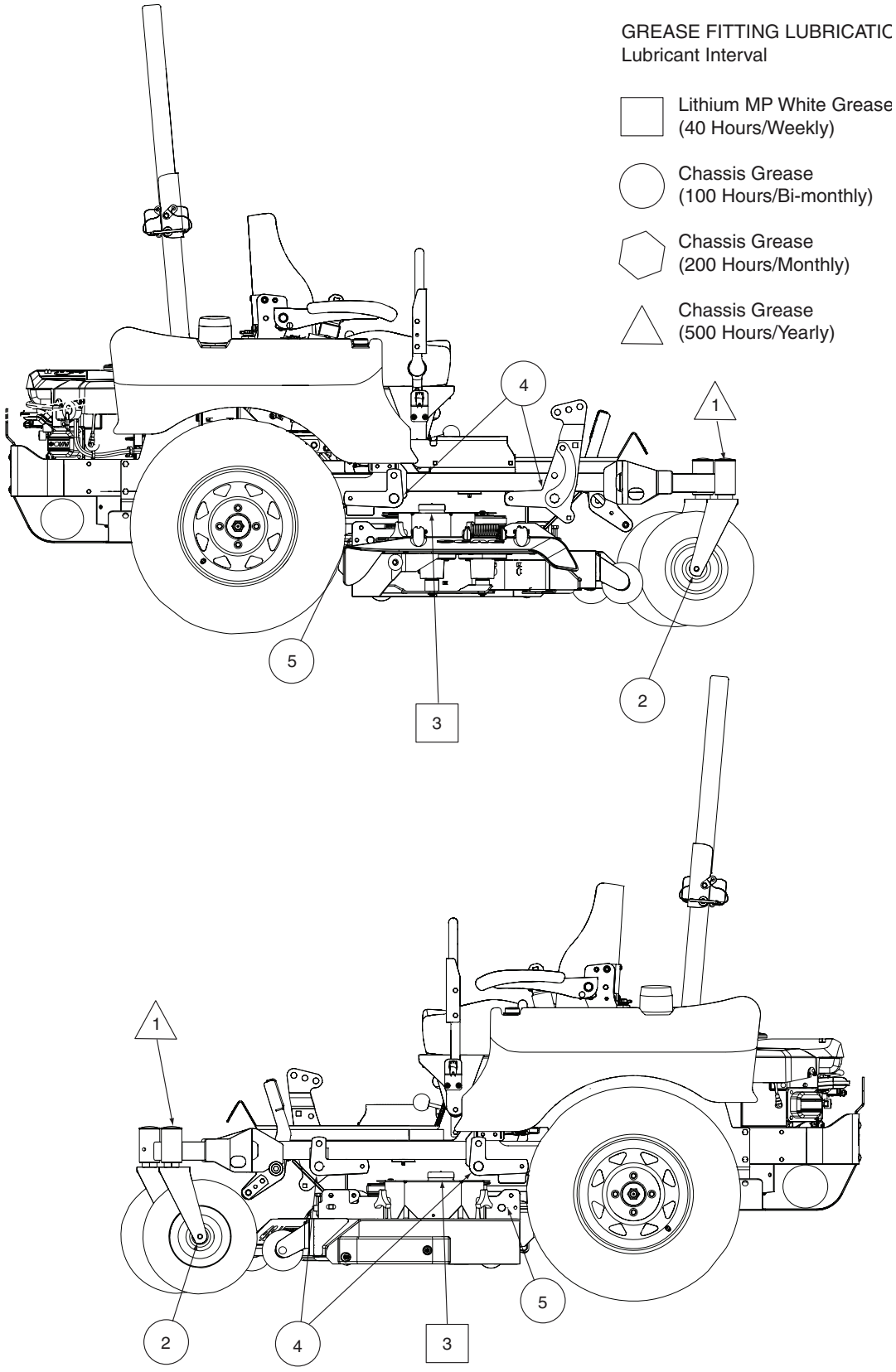


Figure 7-1. Lubrication Fitting Points

7.3 HYDRAULIC SYSTEM

A. CHECKING HYDRAULIC OIL LEVEL

The hydraulic oil level should be checked after the first 10 hours of operation. Thereafter, check the oil after every 200 hours of machine operation or monthly, whichever occurs first.

- IMPORTANT -

If the oil level is consistently low, check for leaks and correct immediately.

1. Wipe dirt and contaminants from around the hydraulic level indicator window.
2. Visually check the level of hydraulic oil. Hydraulic oil must be within the center of the wide postion of the indicator window when the machine is cold. See Figure 7-2. If the fluid is low, add 20W50 motor oil. DO NOT overfill; (overfilling the oil reservoir may cause oil seepage around the cap area).

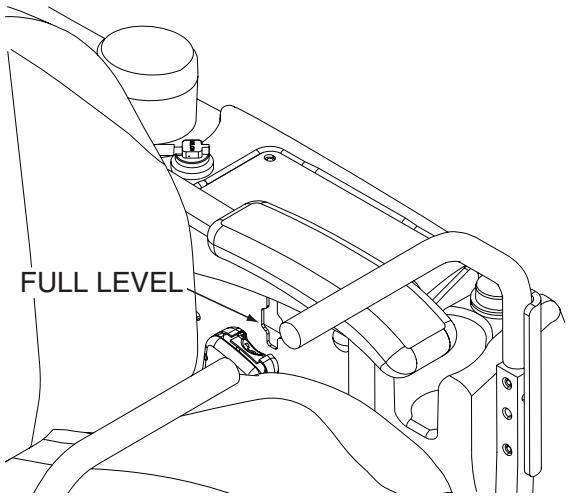


Figure 7-2. Hydraulic Oil Reservoir

B. CHANGING HYDRAULIC OIL AND FILTER

The hydraulic system oil should be changed after the first 120 hours of machine operation and every 400 hours or annually thereafter, whichever occurs first. The oil should also be changed if the color of the fluid has become black or milky. A black color and/or a rancid odor usually indicates possible overheating of the oil, and a milky color usually indicates water in the hydraulic oil.

- IMPORTANT -

The hydraulic oil should be changed if you notice the presence of water or a rancid odor to the hydraulic oil.

1. Park the mower on a level surface and stop the engine.
2. Remove the three 1/4" filter guard screws and filter guard from both axles. See Figure 7-3. Clean any loose debris around the perimeter of the filter.
3. Place a suitable container under the hydraulic oil filters. Remove the cover from the left side tank to gain access to the hydraulic expansion reservoir. Remove the fill cap from the reservoir.

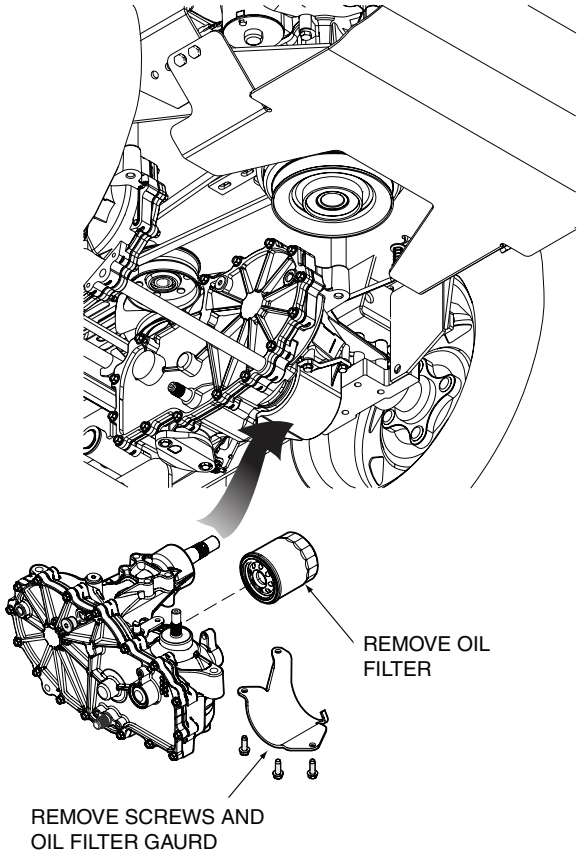


Figure 7-3. Hydraulic Oil Filter and Drain Plug

4. Remove the hydraulic filters from both axles and allow the fluid to drain into the container. Properly discard the oil when the system has drained completely. See Figure 7-3.
5. Once the hydraulic system has drained, install new hydraulic oil filters to both axles by hand, turn 3/4 to one complete turn after filter gasket contacts the filter base.

6. Reinstall the filter guards and torque the screws to 65 in/lbs.
7. Remove the top port plug from both axles before filling with oil. See Figure 7-4.

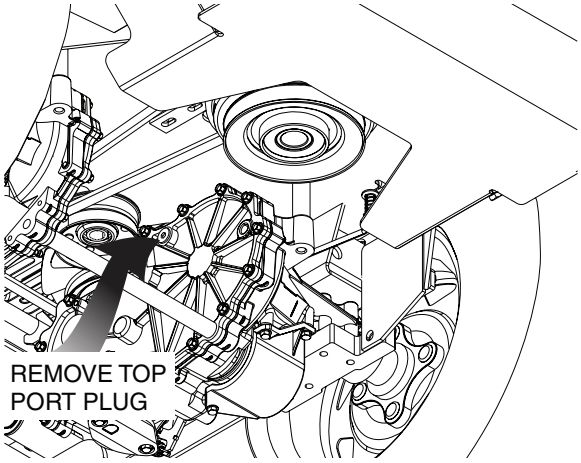


Figure 7-4. Top Port Plug Location

8. Fill the hydraulic expansion reservoir with 20w50 motor oil until the oil just appears at the bottom of each axle top port. Approximately 5 quart capacity. Reinstall the top port plugs and torque to 180 in/lbs.

-NOTE-

The left side axle will fill with oil first using approximately 4 quarts of oil. Reinstall the top port plug in the left axle and continue to fill the hydraulic system through the expansion reservoir. The right side axle should fill up to the bottom on the top port plug after adding an additional one quart of oil. Reinstall the top port plug on the right axle and fill the hydraulic expansion reservoir to the proper level as explained in Section 7.2.

9. Reinstall the hydraulic expansion reservoir cap.
10. The hydraulic system will need to be purged of all air. Raise the rear of the machine so the drive wheels are off the ground. Use jackstands and block the front caster wheels to prevent the machine from moving.
11. Move the dump valve control levers to the "freewheel" position. See Figure 7-5.

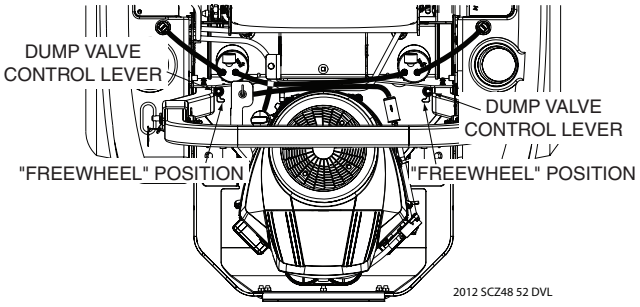


Figure 7-5. Dump Valve Control Lever

12. While in the operator's position, start the engine and disengage the parking brake.
13. Run the engine at 1/2 throttle and move the steering control levers to full forward and reverse 5 to 6 times.
14. Engage the parking brake. Move the dump valve comtrol levers to the "drive" position. See Figure 7-5.
15. While in the operator's position, run the engine at 1/2 throttle. Release the parking brake, move the steering control levers to full forward and reverse 5 to 6 times. It may be necessary to repeat steps 12 to 15 until the air is completely purged from the system.
16. Check the hydraulic system oil level as explained in Section 7.2.

7.4 ENGINE OIL

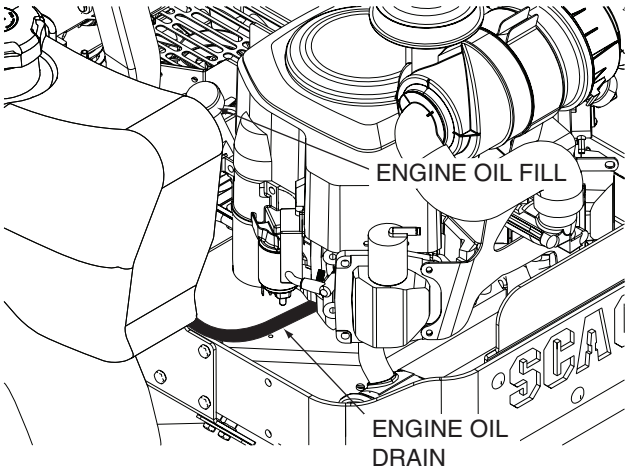


Figure 7-6. Engine Oil Fill/Dipstick and Drain Locations

A. CHECKING ENGINE CRANKCASE OIL LEVEL

The engine oil level should be checked after every 8 hours of operation or daily as instructed in the Engine Operator's Manual furnished with this mower.

B. CHANGING ENGINE CRANKCASE OIL

After the first 20 hours of operation, change the engine crankcase oil and replace the oil filter. Thereafter, change the engine crankcase oil after every 100 hours of operation or bi-weekly, whichever occurs first. Refer to the Engine Operator's Manual furnished with this mower for instructions.

C. CHANGING ENGINE OIL FILTER

After the first 20 hours of operation, replace the engine oil filter. Thereafter, replace the oil filter after every 200 hours of operation or every month, whichever occurs first. Refer to Engine Operator's Manual for instructions.

7.5 ENGINE FUEL SYSTEM

⚠ DANGER

To avoid injury from burns, allow the mower to cool before removing the fuel tank cap and refueling.

A. FILLING THE FUEL TANKS

Fill to the bottom of the filler neck insert (approximately 5 gallons per fuel tank indicating Full (F) on the fuel gauge) at the beginning of each operating day. See Figure 7-7. Do not overfill. Use clean, fresh unleaded gasoline with a minimum octane rating of 87 and a maximum of 10% Ethanol.

DO NOT use E85 Fuel. Using E85 Fuel will cause severe damage to the engine.

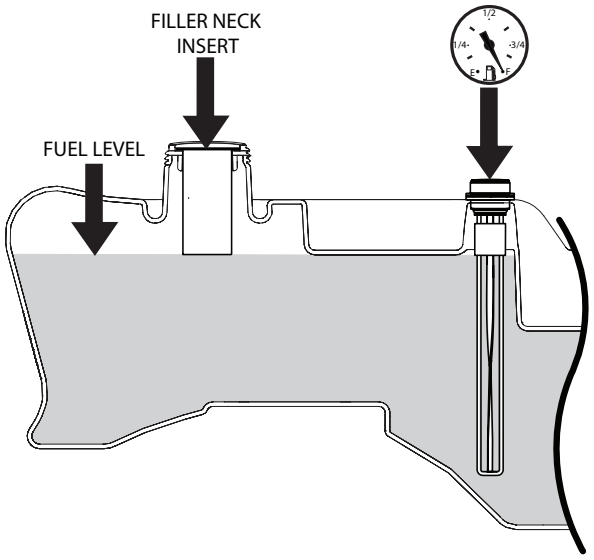


Figure 7-7. C.A.R.B. / EPA Phase 3 Fuel Level

To avoid personal injury or property damage, use extreme care in handling gasoline. Gasoline is extremely flammable and the vapors are explosive.

1. Extinguish all cigarettes, cigars, pipes and other sources of ignition.
2. Use only an approved gasoline container.
3. Never remove the gas cap or add fuel with the engine running. Allow the engine to completely cool before fueling.
4. Never fuel the machine indoors or in an enclosed trailer.
5. Never store the machine or fuel container where there is an open flame, spark or pilot light such as on a water heater or other appliances.
6. Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground away from your vehicle before filling.
7. Remove the machine from the truck or trailer and fuel on the ground. If this is not possible, then refuel the machine with a portable container, rather than from a gasoline dispenser nozzle.
8. Keep the nozzle in contact with the rim of fuel tank or container opening at all times until fueling is complete. Do not use a nozzle lock-open device.
9. If fuel is spilled on clothing, change clothing immediately and wash affected skin.
10. Replace gas cap and tighten securely. Tighten the fuel cap until it ratchets.

B. REPLACING IN-LINE FUEL FILTER ELEMENTS

The engine fuel filter should be replaced after every 500 hours of operation or annually, whichever occurs first. See Figure 7-8.

1. Close the shut-off valve.
2. Remove and replace the engine fuel filter. Open the fuel shut-off valve.

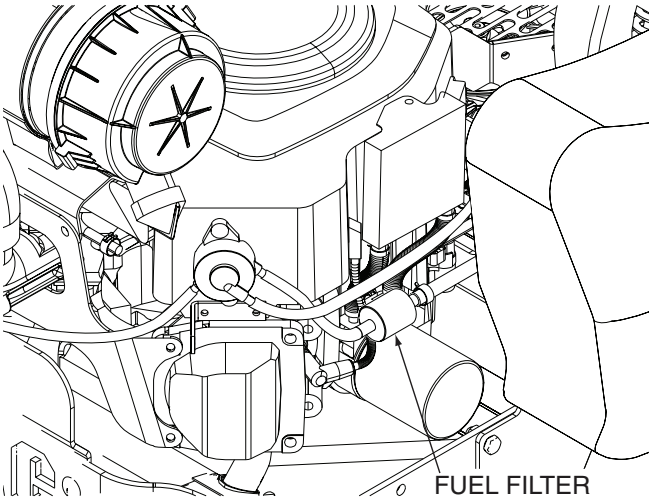


Figure 7-8. Fuel Filter

7.6 ENGINE AIR CLEANER

A. CLEANING AND/OR REPLACING AIR CLEANER ELEMENT

For any air cleaner, the operating environment dictates the air cleaner service periods. Inspect and clean the air cleaner element after every 100 hours of operation or bi-weekly, whichever occurs first and replace the element if required.

- NOTE -

In extremely dusty conditions it may be necessary to check the element once or twice daily to prevent engine damage.

1. Release the two latches securing the air cleaner cover to the air cleaner assembly and remove the cover. Set aside.
2. Remove the air cleaner and inspect.
3. Clean or replace the air cleaner and foam pre-cleaner as recommended by the engine manufacturer.
4. Replace the air cleaner cover and be sure to snap the two latches closed.

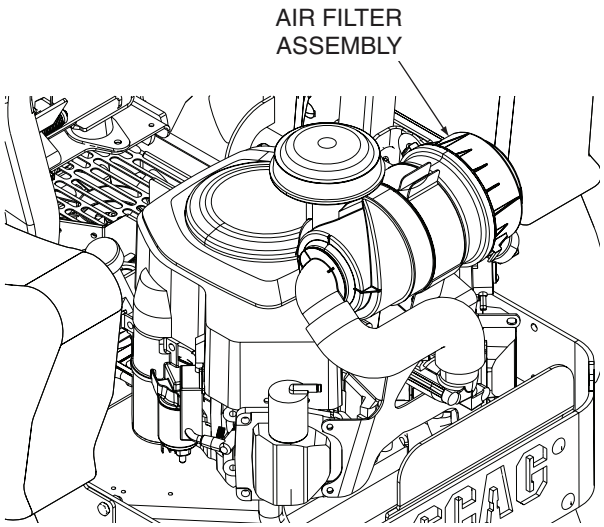


Figure 7-9. Air Filter Assembly

7.7 BATTERY

⚠ WARNING

Lead-acid batteries produce flammable and explosive gases. To avoid personal injury when checking, testing or charging batteries, DO NOT use smoking materials near batteries. Keep arcs, sparks and flames away from batteries. Provide proper ventilation and wear safety glasses.

⚠ WARNING

Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to cause cancer and reproductive harm. Wash hands after handling.

⚠ WARNING

Electric storage battery fluid contains sulfuric acid which is POISON and can cause SEVERE CHEMICAL BURNS. Avoid contact of fluid with eyes, skin, or clothing. Use proper protective gear when handling batteries. DO NOT tip any battery beyond 45° angle in any direction. If fluid contact does occur, follow first aid suggestions below.

BATTERY ELECTROLYTE FIRST AID

External Contact — Flush with water.

Eyes — Flush with water for at least 15 minutes and get medical attention immediately.

Internal — Drink large quantities of water. Follow with Milk Of Magnesia, beaten egg, or vegetable oil. Get medical attention immediately. In case of internal contact, DO NOT give fluids that would induce vomiting.

A. CHARGING THE BATTERY

Refer to the battery charger's manual for specific instructions.

Under normal conditions the engine's alternator will have no problem keeping a charge on the battery. If the battery has been completely discharged for a long period of time, the alternator may not be able to recharge the battery, and a battery charger will be required.

DO NOT charge a frozen battery. It may explode and cause injury. Let the battery warm before attaching a charger.

Whenever possible, remove the battery from the mower before charging and make sure the electrolyte covers the plates in all cells.

⚠ WARNING

BATTERIES PRODUCE EXPLOSIVE GASES. Charge the battery in a well ventilated space so gases produced while charging can dissipate.

Charging rates between 3 and 50 amperes are satisfactory if excessive gassing or spewing of electrolyte does not occur or the battery does not feel excessively hot (over 125°F). If spewing or gassing occurs or the temperature exceeds 125°F, the charging rate must be reduced or temporarily stopped to permit cooling.

B. JUMP STARTING

1. The booster battery must be a 12 volt type. If a vehicle is used for jump starting, it must have a negative ground system.
2. When connecting the jumper cables, connect the positive cable to the positive battery post, then connect the negative cable to the negative battery post.

7.8 DRIVE BELTS

All drive belts are spring-loaded and self-tensioning, however after the first 2, 4, 8 and 10 hours of operation, the belts should be checked for proper alignment and wear. Thereafter, check the belts after every 40 hours of operation or weekly, whichever occurs first.

- NOTE -

If you experience frequent belt wear or breakage, see your authorized Scag service center for belt adjustment.

⚠ WARNING

If the pump drive belt fails, steering control will be lost which could result in serious injury or death. Replace the pump drive belt as needed or every 400 hours / 2 years, whichever occurs first.

7.9 CUTTER BLADES

A. BLADE INSPECTION

1. Remove the ignition key before servicing the blades.
2. Raise the mower deck to the highest position. Place the lanyard pin in the highest cutting height position to prevent the cutter deck from falling.

⚠ WARNING

Always wear proper hand and eye protection when working with cutter blades.

3. Check the cutter blades for straightness. If the cutter blades appear bent, they will need to be replaced.
4. Check the cutter blades for wear. If any part of the cutter blade is worn to 1/2 its original thickness, replace the cutter blade.

⚠ WARNING

Do not attempt to straighten a bent blade, and never weld a broken or cracked blade. Always replace it with a new blade to assure safety.

5. Check the cutter blades for gouges. If there are gouges on the top or bottom surfaces of the cutter blade, replace the cutter blade.
6. If a blade cutting edge is dull or nicked, it should be sharpened. Remove the blades for sharpening. See "Blade Replacement".

- NOTE -

Keep the blades sharp. Cutting with dull blades not only yields a poor mowing job, but slows the cutting speed of the mower and causes extra wear on the engine and the blade drive by pulling hard.

B. BLADE SHARPENING

- NOTE -

If possible, use a file to sharpen the blade. Using a wheel grinder may burn the blade.

- NOTE -

DO NOT sharpen the blades beyond 1/3 of the width of the blade. See Figure 7-10.

1. Sharpen the cutting edge at the same bevel as the original. See Figure 7-10. Sharpen only the top of the cutting edge to maintain sharpness.

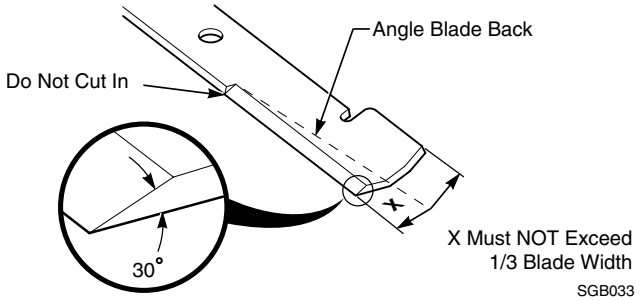


Figure 7-10. Blade Sharpening

2. Check the balance of the blade. If the blades are out of balance, vibration and premature wear can occur. The cutter blades should be balanced to 1-1/2 oz-in. See your authorized Scag dealer for blade balancing or special tools, if you choose to balance your own blades.

C. BLADE REPLACEMENT

⚠ WARNING

Always wear proper hand and eye protection when working with cutter blades.

1. Remove the ignition key before replacing the blades.
2. Raise the mower deck to the highest position. Place the lanyard pin in the highest cutting height position to prevent the cutter deck from falling.
3. Secure the cutter blades to prevent them from rotating, (use the optional Blade Buddy tool P/N 9212, to assist in securing the cutter blades), remove the nut from the blade attaching bolt. Remove the cutter blade, bolt and spacer from the spindle shaft. See Figure 7-11.

- NOTE -

The front of the machine will have to be raised slightly to remove the blade bolt from the cutter spindle.

⚠ CAUTION

Inspect the cutter blade spacer(s) and washer for wear and/or cupping. Replace the worn parts. Worn spacer(s) and/or washer will not allow proper tightening of the cutter blade and can lead to cutter blade failure, personal injury or property damage.

4. To install the new cutter blade, put the flat washer onto the blade bolt and slide the bolt into the hole in the cutter blade.

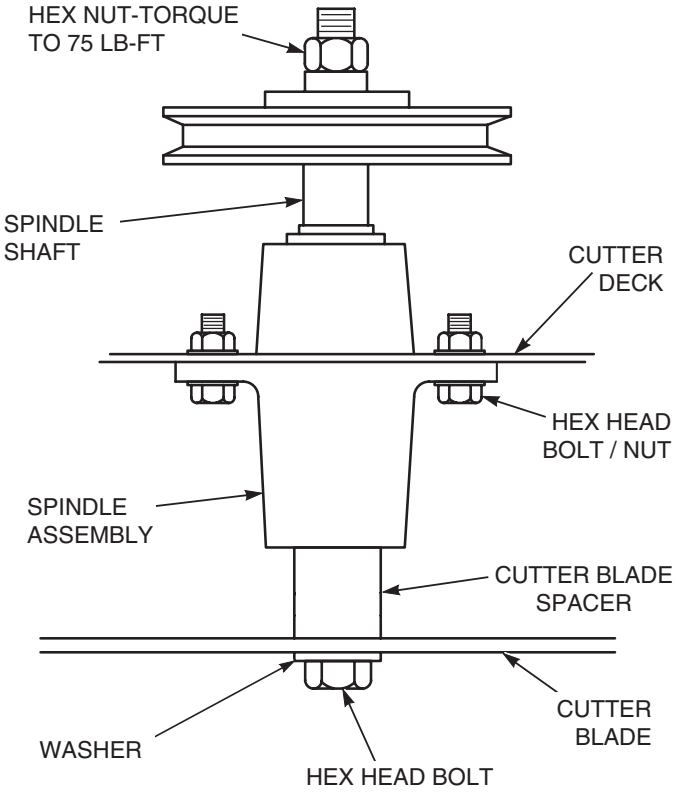


Figure 7-11. Blade Replacement

- NOTE -

Be sure that the blade is installed with the lift wing toward the top.

5. Install the spacer onto the blade bolt and insert the bolt into the cutter spindle shaft.
6. Install the hex nut to the blade bolt at the top of the cutter spindle. Secure the blades from rotating and torque to 75 lb-ft. See Figure 7-11.

7.10 TIRES

Check the tire pressures after every 8 hours of operation or daily.

Caster Wheels	Flat Free
Drive Wheels	12 PSI

7.11 BODY, DECK, AND UPHOLSTERY

⚠ CAUTION

Do not wash any portion of the equipment while it is hot. Do not wash the engine; use compressed air.

1. After each use, wash the mower and cutter deck. Use cold water and automotive cleaners. Do not use pressure cleaners.
2. Do not spray electrical components.
3. Use a mild soap solution or a vinyl/rubber cleaner to clean the seat.
4. Repair damaged metal surfaces using Scag touch-up paint available from your authorized Scag dealer. Wax the mower for maximum paint protection.

ILLUSTRATED PARTS LIST

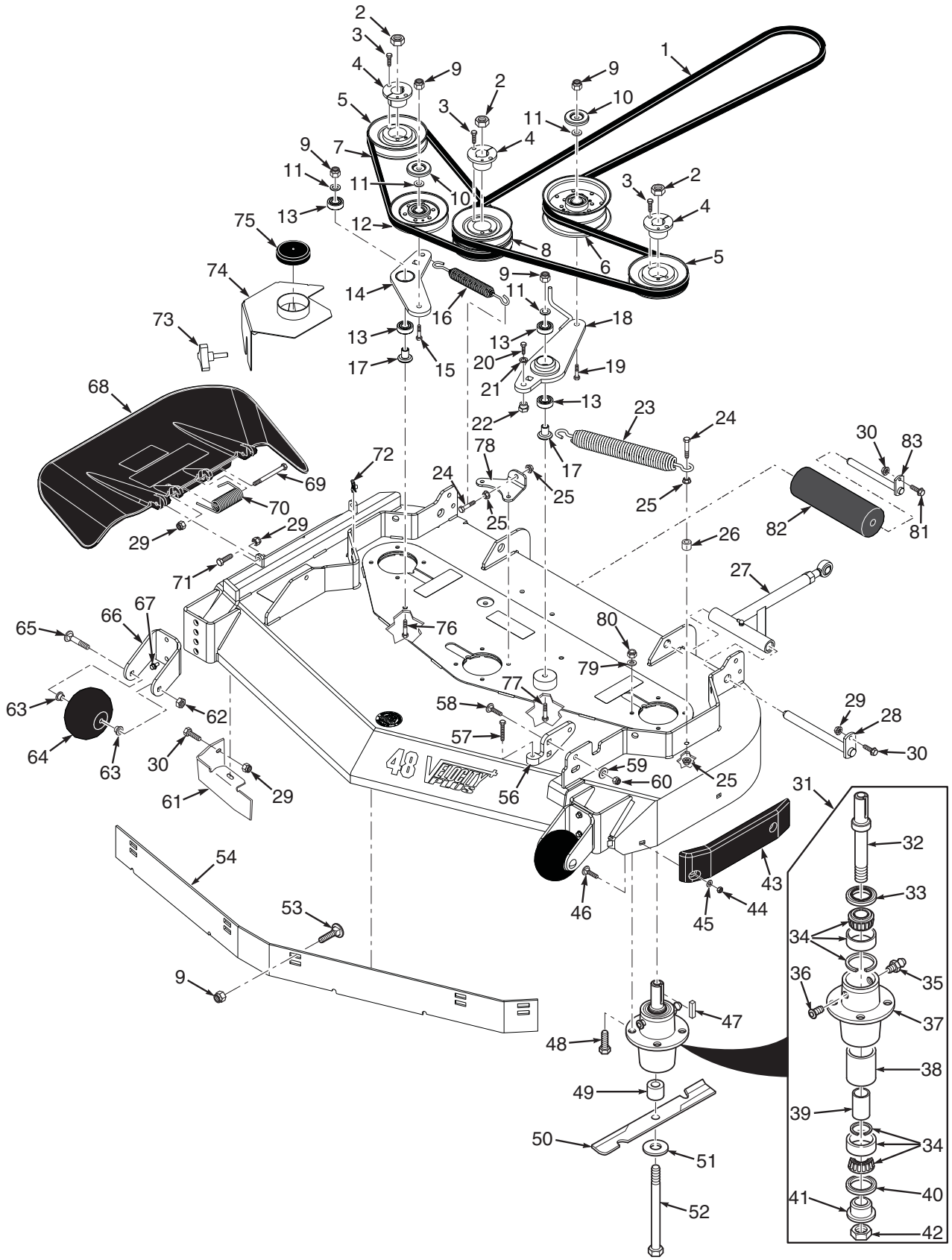
8.1 SCAG APPROVED ATTACHMENTS AND ACCESSORIES

Attachments and accessories manufactured by companies other than Scag Power Equipment are not approved for use on this machine.

Scag approved attachments and accessories:

- GC-3B (p/n 900S) - Requires a 900U (48/52 Install Kit) or GC-SCZ48/52 (p/n 900F, p/n 900G)
- GC-CS(p/n 900T) - Requires a 900U (48/52 Install Kit) or GC-SCZ48/52-CS (p/n 900M)
- Mulch Plate (p/n 9286, 9287)
- Hurricane Mulch (p/n 9283, 9284)
- SCZ48/52 Hitch (p/n 922C)
- SCZ 48/52 Lights (p/n 922D)
- SCZ48/52 Striper (p/n 921R) - Requires Install Kit p/n 921U
- STC/SCZ-OCDC-48V (p/n 922L)
- SCZ/STT-OCDC-52V (p/n 922M)
- Quick Fit Control Handles (p/n 922E)
- Blade Buddy (p/n 9212)
- 12” Chrome Wheel Covers (set of 2) (p/n 920J)

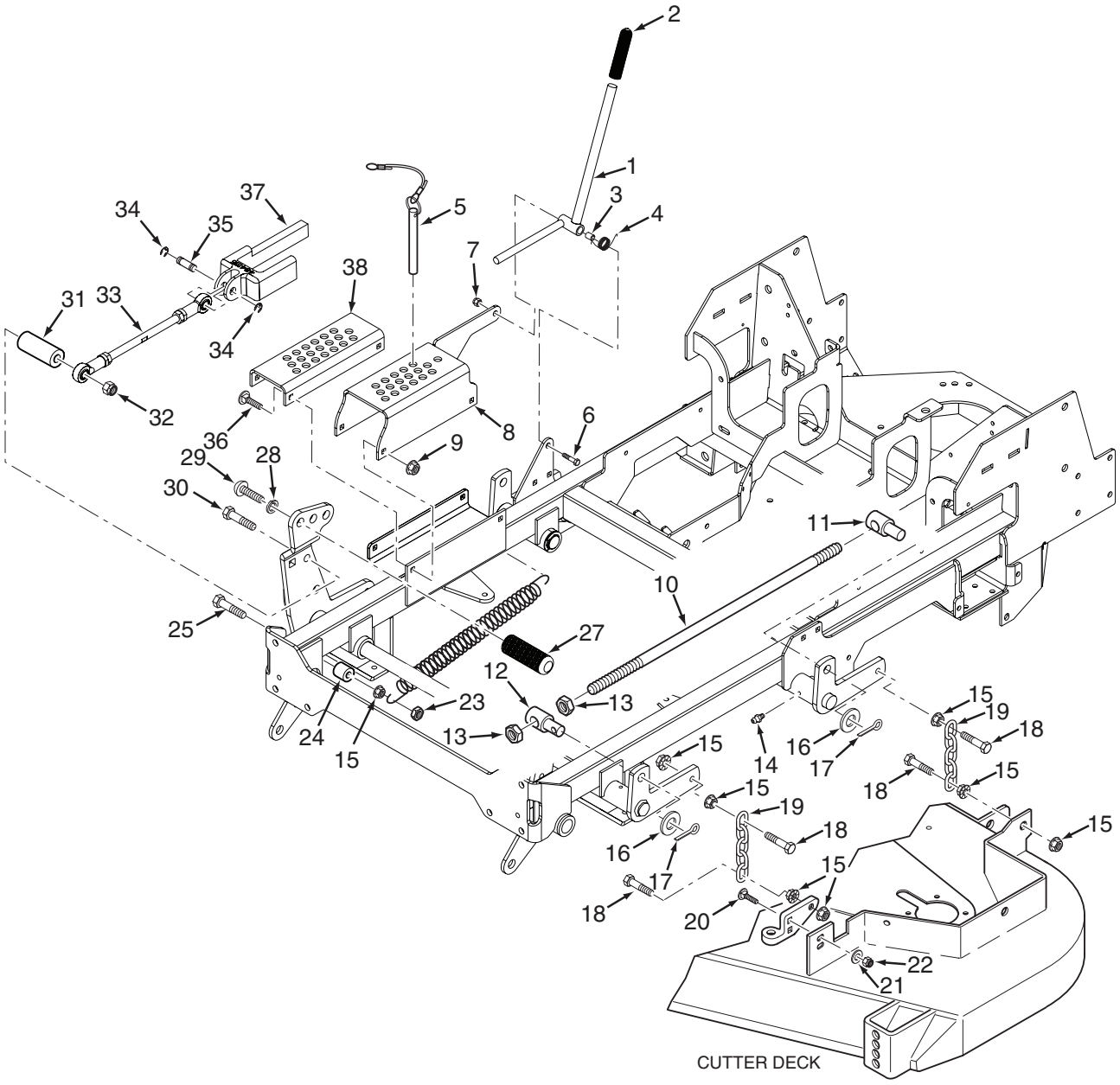
48V & 52V CUTTER DECKS



48V & 52V CUTTER DECKS

Ref. No.	Part No.	Description	48	52
1	483241	Belt, Deck Drive	x	
	483242	Belt, Deck Drive		x
2	04020-09	Nut, 5/8-11 UNC	x	x
3	04001-172	Bolt, Hex Head 1/4-20 x 1”	x	x
4	48926	Tapered Hub, 1.125” Bore	x	x
5	483282	Pulley, 5.13” Dia.	x	
	483284	Pulley, 5.73” Dia.		x
6	483210	Pulley, 5” Idler	x	x
7	483239	Belt, RH Deck Drive	x	
	483240	Belt, RH Deck Drive		x
8	483283	Pulley, 5.232” Dia.	x	
	483285	Pulley, 5.832” Dia.		x
9	04021-09	Nut, Elastic Stop 3/8-16	x	x
10	424367	Dust Shield	x	x
11	04043-04	Flatwasher, 3/8-.391 x .938 x .105 HD	x	x
12	48181	Pulley, Idler	x	x
13	48224	Bearing	x	x
14	461946	Idler Arm Assy. (incl. #13)	x	x
15	04001-45	Bolt, Hex Head 3/8-16 x 2”	x	x
16	483247	Spring, RH Deck	x	x
17	43689	Pivot, Idler	x	x
18	462503	Idler Arm Assy. (incl. #13)	x	x
19	04001-54	Bolt, Hex Head 3/8-16 x 3”	x	x
20	04001-27	Bolt, Hex Head 7/16-14 x 1”	x	x
21	04030-05	Lockwasher, 7/16” Spring	x	x
22	43686	Boss, Spring Anchor - LH	x	x
23	483246	Spring, LH Deck	x	x
24	04001-136	Bolt, Hex Head 3/8-16 x 1-1/2” Grade 8	x	x
25	04019-04	Nut, Serrated Flange 3/8-16	x	x
26	43063	Spacer	x	x
27	462463	Pusharm Assy., LH	x	x
	462464	Pusharm Assy., RH	x	x
28	451240	Rod Weldment, Pusharm	x	x
29	04021-10	Nut, Elastic Stop 5/16-18	x	x
30	04001-09	Bolt, Hex Head 5/16-18 x 1”	x	x
31	461663	Spindle Assembly	x	x
32	43589	Shaft, Spindle	x	x
33	481024	Seal, Top	x	x
34	481022	Bearing Assembly	x	x
35	48114-04	Grease Fitting	x	x
36	48677	Relief Fitting, Spindle	x	x
37	43644	Spindle Housing	x	x
38	43312	Spacer, Outside	x	x
39	43296	Spacer, Inside	x	x
40	481025	Seal, Bottom	x	x
41	43296	Spindle Bushing	x	x
42	481035	Nut, Special 1-1/16 - 18	x	x
43	483176	Wear Pad	x	x
44	04021-04	Nut, Center Lock 5/16-18	x	x
45	04040-04	Flatwasher, 5/16-.344 x .688 x .065	x	x
46	04003-12	Bolt, Carriage 5/16-18 x 3/4”	x	x
47	04063-08	Key, 1/4 x 1/4 x 2”	x	x
48	04001-176	Bolt, Hex Head 5/16-18 x 1-3/4” Grade 8	x	x
49	43590	Spacer, Spindle Bottom	x	x
50	482877	Cutter Blade, 16.5”	x	
	482878	Cutter Blade, 18”		x
51	04043-06	Flatwasher, 5/8-.688 x 1.75 x .134 HD	x	x
52	04001-41	Bolt, Hex Head 5/8-11 x 9-1/2”	x	x
53	04003-23	Bolt, Carriage 3/8-16 x 1”	x	x
54	424839	Baffle, Flange - 48V	x	
	424840	Baffle, Flange - 52V		x
55	462501	Cutter Deck w/Decals	x	
	462502	Cutter Deck w/Decals		x
56	461929	Lever Assy., Deck Level	x	x
57	483167	Bolt, Deck Adjustment	x	x
58	04003-40	Bolt, Carriage 7/16-14 x 1-1/4”	x	x
59	04040-07	Flatwasher, 1/2-.531 x 1.062 x .095	x	x
60	04021-11	Nut, Elastic Stop 7/16-14	x	x
61	424677	Baffle, Turbo	x	x
62	04021-05	Nut, Center Lock 3/8-16	x	x
63	48100-15	Bushing, .376 ID Oilite	x	x
64	481632	Wheel, Anti-Scalp	x	x
65	04003-26	Bolt, Carriage 3/8-16 x 4”	x	x
66	422478	Bracket, Anti-Scalp Wheel	x	x
67	04017-27	Bolt, Serrated Flange 3/8-16 x 1”	x	x
68	461844	Discharge Chute Assy.	x	
	461845	Discharge Chute Assy.		x
69	04001-154	Bolt, Hex Head 5/16-18 x 4-3/4”	x	x
70	483378	Spring, Discharge Chute	x	x
71	04001-12	Bolt, Hex Head 5/16-18 x 1-3/4”	x	x
72	04110-03	U-Nut, 3/8-16	x	x
73	481625-01	Wing Nut, 3/8-16	x	x
74	462479	Belt Cover Assy., LH	x	
	462480	Belt Cover Assy., RH	x	
	462481	Belt Cover Assy., LH		x
	462482	Belt Cover Assy., RH		x
75	484368	Cap, Spindle	x	x
76	04001-46	Bolt, Hex Head 3/8-16 x 2-1/4”	x	x
77	04001-62	Bolt, Hex Head 3/8-16 x 3-1/4”	x	x
78	424376	Anchor Bracket, Spring	x	
	424377	Anchor Bracket, Spring		x
79	04030-03	Lockwasher, 5/16” Spring	x	x
80	04021-22	Nut, Elastic Stop 5/16-18 Grade 8	x	x
81	04001-09	Bolt, Hex Head 5/16-18 x 1”	x	x
82	48038	Guide Roller	x	x
83	45944	Shaft Weldment, Guide Roller	x	x

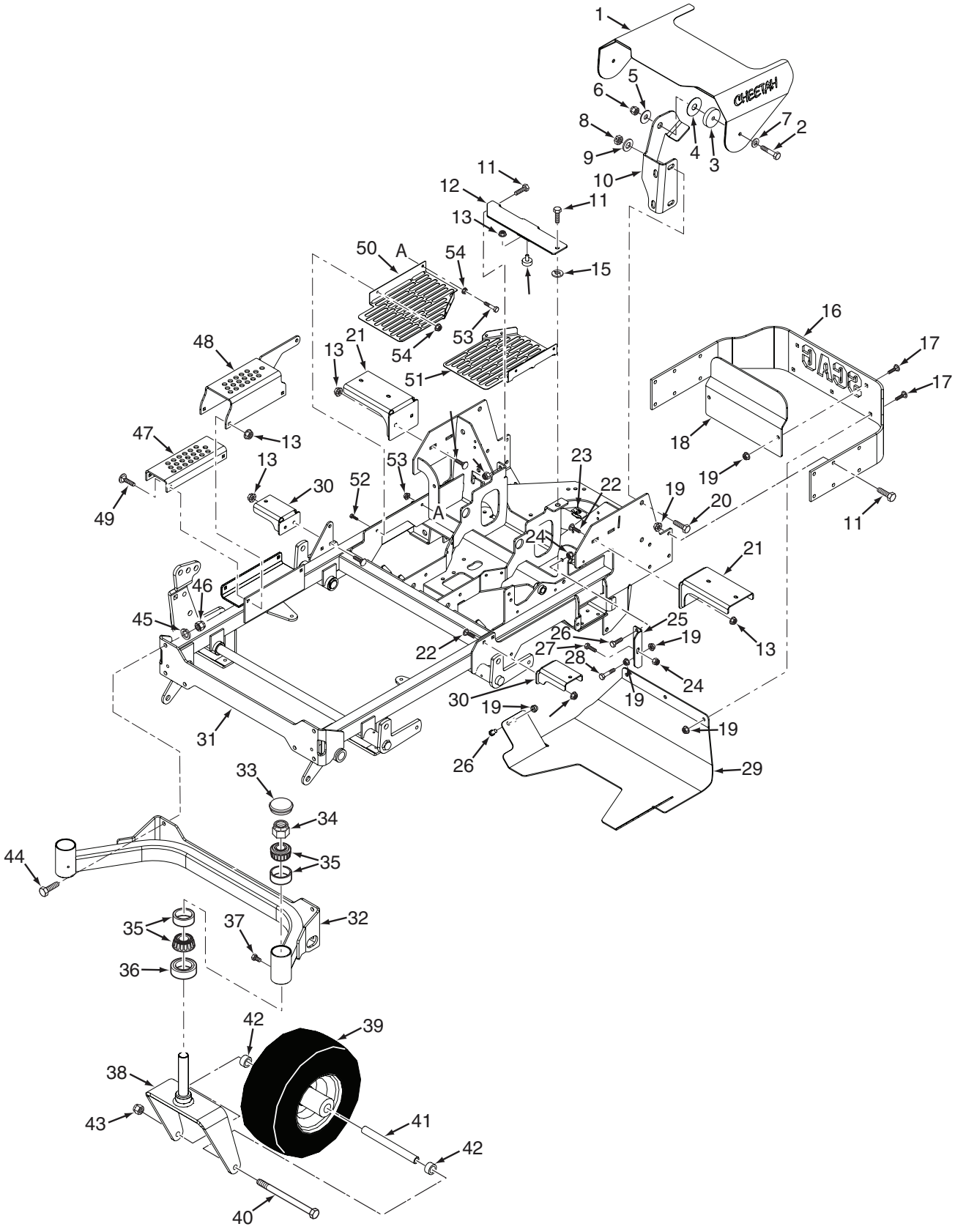
CUTTER DECK CONTROLS



CUTTER DECK CONTROLS

Ref. No.	Part No.	Description
1	462451	Deck Latch Assembly (incl. #2)
2	481477	Grip, Deck Latch
3	43874	Spacer, Deck Latch
4	484191	Spring, Torsion - Lever Return
5	483345	Pin Assembly, w/Lanyard
6	04001-54	Bolt, Hex Head 3/8-16 x 3”
7	04021-09	Nut, Elastic Stop 3/8-16
8	425737	Adjustment Bracket, Cutting Height
9	*04019-03	Nut, Serrated Flange 5/16-18
		*(See Page 53 for Serial Number Range)
10	04004-45	Stud, 1/2-13 x 20”
11	43678	Swivel Joint, LH
12	43679	Swivel Joint, RH
13	04020-07	Nut, 1/2-13
14	48114-04	Grease Fitting, 1/4-28 Self Tap
15	04019-04	Nut, Serrated Flange 3/8-16
16	04040-09	Flatwasher, 5/8-.656 x 1.312 x .095
17	04061-07	Cotter Pin, 3/16 x 1”
18	04001-20	Bolt, Hex Head 3/8-16 x 1-1/2”
19	48540	Chain
20	04003-40	Bolt, Carriage 7/16-14 x 1-1/4”
21	04040-07	Flatwasher, 1/2-.531 x 1.062 x .095
22	04021-11	Nut, Elastic Stop 7/16-11
23	04021-05	Nut, Center Lock 3/8-16
24	43572	Spacer
25	04001-32	Bolt, Hex Head 3/8-16 x 1-1/4”
26	483177	Spring, Helper
27	424504	Foot Pedal, Height Adjustment
28	04030-07	Lockwasher, 5/8” Spring
29	04105-01	Capscrew, 5/8-11 x 1-1/2”
30	04001-87	Bolt, Hex Head 1/2-13 x 4”
31	43873	Spacer, Deck Lift Pedal
32	04021-07	Nut, Elastic Stop 1/2-13
33	482534	Linkage Assembly, Deck Lift
	482624	Rod, Deck Lift
	04020-28	Jam Nut, 1/2-20 LH Thread
	481766	Rod End, 1/2-20 LH Female
	04020-27	Jam Nut, 1/2-20 RH Thread
	481765	Rod End, 1/2-20 RH Female
34	04050-10	Retaining Ring, 1/2” Ext. “E”
35	43487	Pin, Deck Lift
36	04001-09	Bolt, Hex Head 5/16-18 x 1”
	04030-03	Lockwasher, 5/16” Spring
37	484115	Slide, Height Adjust
38	*452408	Adjustment Bracket, Lower Cut Height

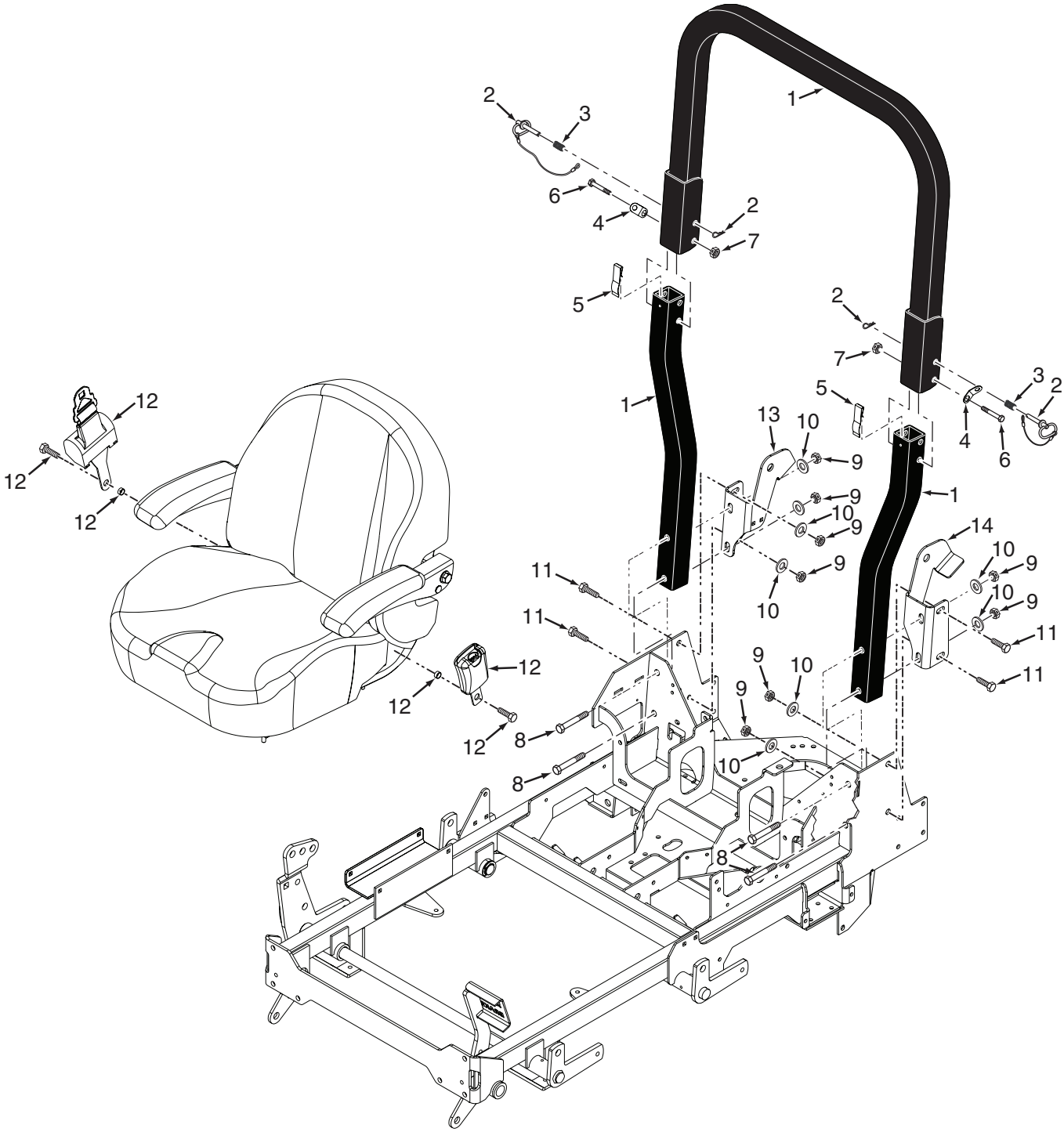
SHEET METAL COMPONENTS



SHEET METAL COMPONENTS

Ref. No.	Part No.	Description
1	462504	Hood Assembly
	462556	Hood Assembly, EFI
2	04001-21	Bolt, Hex Head 3/8-16 x 1-3/4”
3	43740	Spacer, Hood
4	483471	Disk, Anti-Friction
5	04041-11	Flatwasher, 3/8-.406 x 1.50 x 7 Ga.
6	04021-09	Nut, Elastic Stop 3/8-16
7	04041-07	Flatwasher, 3/8-.391 x .938 x .105
8	04021-09	Nut, Center Lock 1/2-13
9	04040-13	Flatwasher, 1/2-.562 x 1.375 x .109
10	425961	ROPS Mount, LH
	425962	ROPS Mount, RH
11	04001-19	Bolt, Hex Head 3/8-16 x 1”
12	425422	Cover, Battery Box
13	04019-03	Nut, Serrated Flange 5/16-18
14	481581	Bumper, Rubber
15	04024-02	Nut, Push-On 3/8 Thread
16	425725	Bumper, Rear
17	04003-23	Bolt, Carriage 3/8-16 x 1”
18	425926	Guard, Engine
19	04019-04	Nut, Serrated Flange 3/8-16
20	04001-70	Bolt, Hex Head 1/2-13 x 1-1/4”
21	425350	Mounting Bracket, Fuel Tank Rear
22	04003-12	Bolt, Carriage 5/16-18 x 3/4”
23	04110-03	U-Nut, 3/8-16
24	04021-09	Nut, Elastic Stop 3/8-16
25	425907	Anchor Bracket, Pum Spring
26	04001-19	Bolt, Hex Head 3/8-16 x 1”
27	04001-32	Bolt, Hex Head 3/8-16 x 1-1/4”
28	04001-136	Bolt, Hex Head 3/8-16 x 1-1/2” Grade 8
29	425724	Plate, Skid
30	425862	Mounting Bracket, Fuel Tank Front
31	462562	Mainframe Assembly, w/Decals
32	452284	Caster Weldment
33	484195	Cap, Grease
34	04021-20	Nut, Elastic Stop 1”-14
35	481657	Bearing w/Race
36	481025	Seal, 2” O.D. x 1.625 Bore
37	482028-01	Plug, 1/4-28
38	451658	Yoke Weldment
39	9278	Caster Wheel Assembly
	482621	Bearing
	48114-10	Grease Fitting
40	04001-167	Bolt, Hex Head 1/2-13 x 9-1/2”
41	43583	Sleeve, Caster Wheel
42	43584	Spacer, Caster Wheel
43	04021-07	Nut, Elastic Stop 1/2-13
44	04001-28	Bolt, Hex Head 7/16-14 x 1-1/4”
45	04030-05	Lockwasher, 7/16” Spring
46	04021-11	Nut, Elastic Stop 7/16-14
47	452408	Adjustment Bracket, Lower Cut Height
048	425737	Adjustment Bracket, Cutting Height
49	04001-09	Bolt, Hex Head 5/16-18 x 1”
	04030-03	Lockwasher, 5/16” Spring
50	425747	Fan Cover, RH
51	425746	Fan Cover, LH
52	04001-01	Bolt, Hex Head 1/4-20 x 3/4”
53	04001-59	Bolt, Hex Head 1/4-20 x 1-1/4”
54	04019-02	Nut, Serrated Flange 1/4-20

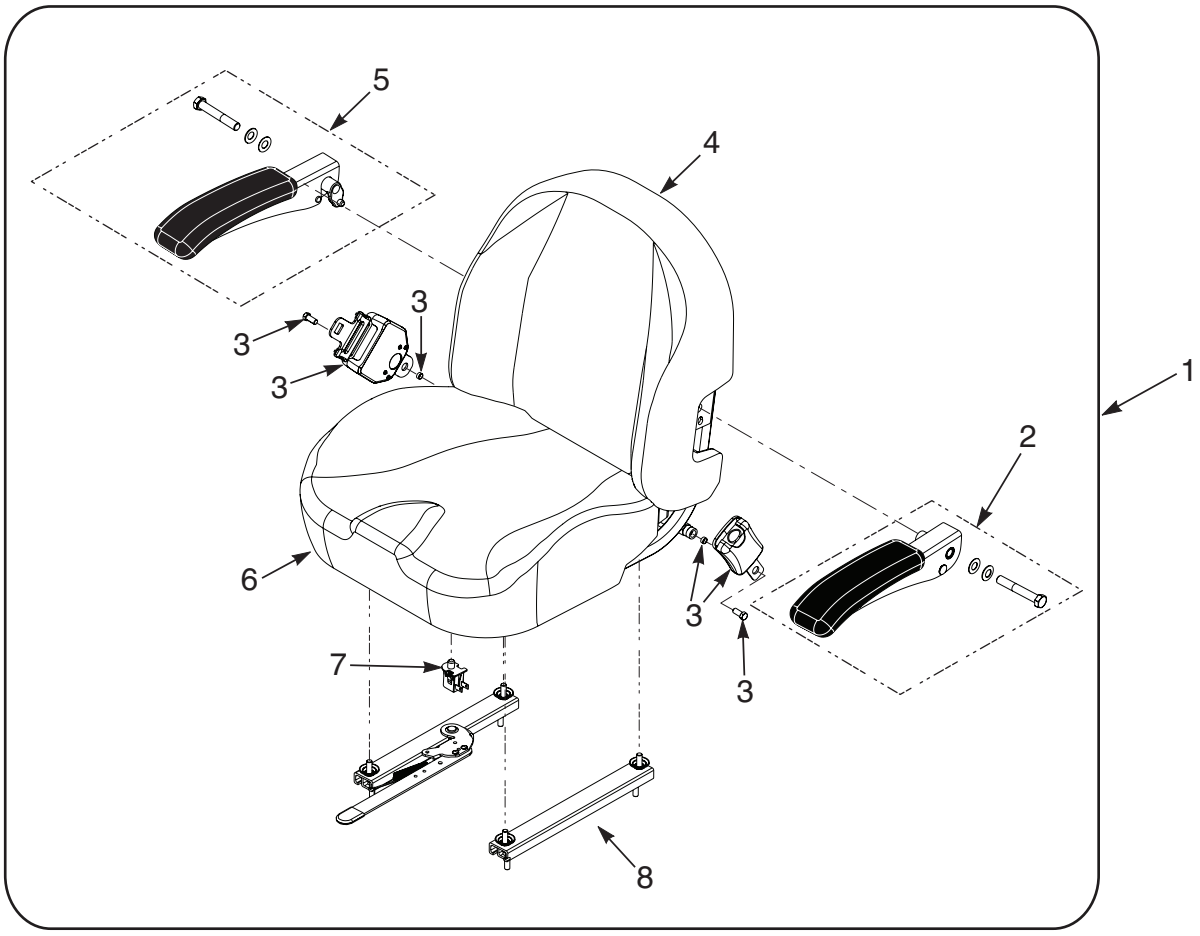
SCZ ROLL-OVER PROTECTION SYSTEM



SCZ ROLL-OVER PROTECTION SYSTEM

Ref. No.	Part No.	Description
1	462414	ROPS Assembly, Foldable
2	484168	Pin Assembly (incl. #3)
3	484170	Spring, ROPS
4	484169	Clip, ROPS
5	484167	Spring, ROPS Anti-Rattle
6	04001-90	Bolt, Hex Head 1/2-13 x 3-1/4”
7	04021-07	Nut, Elastic Stop 1/2-13
8	04001-145	Bolt, Hex Head 1/2-13 x 3-1/2”
9	04021-19	Nut, Center Lock 1/2-13
10	04040-13	Flatwasher, 1/2-.562 x 1.375 x .109
11	04001-70	Bolt, Hex Head 1/2-13 x 1-1/4”
12	484527	Seat Belt Kit
13	425962	ROPS Mount, RH
14	425961	ROPS Mount, LH

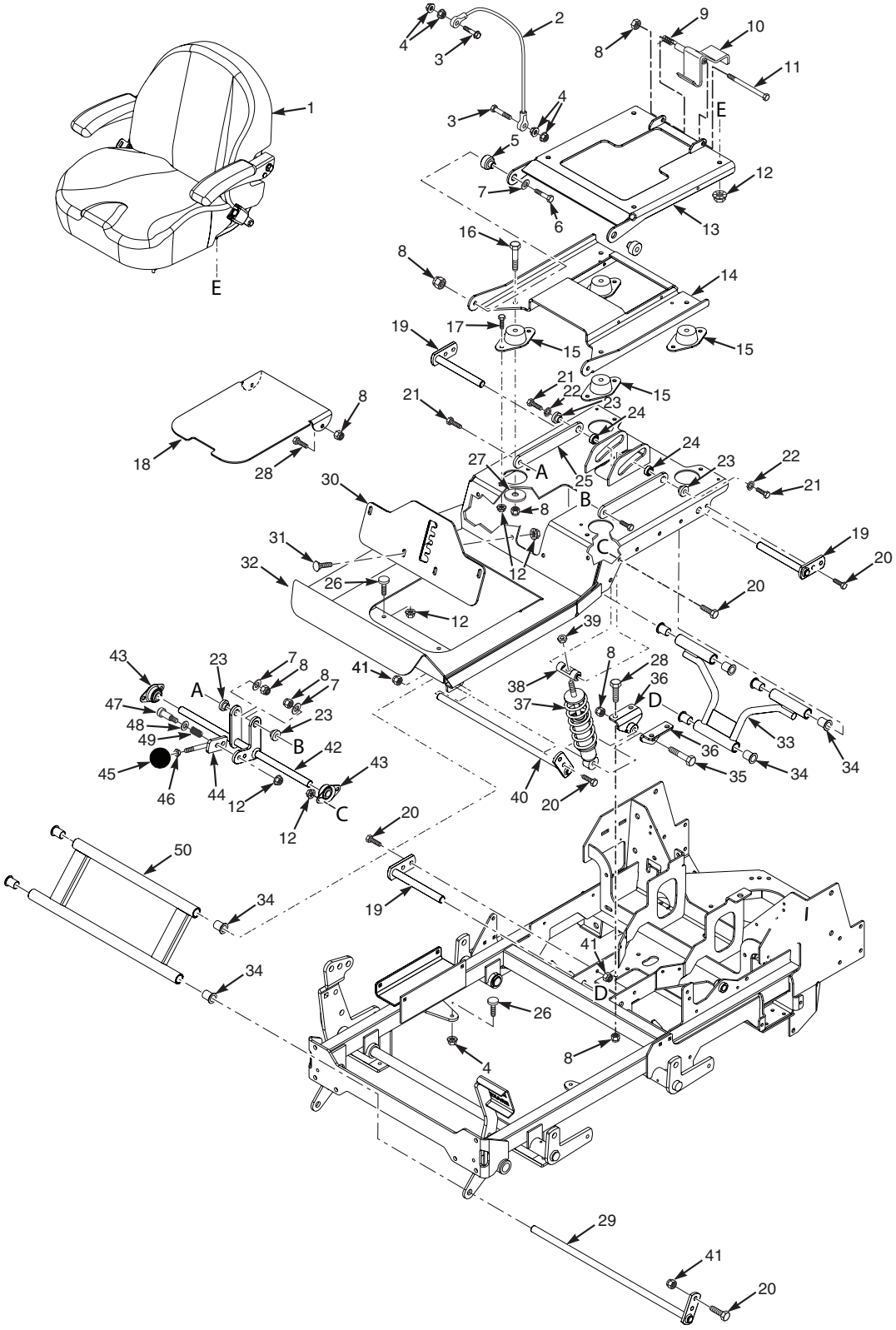
SCZ SEAT ASSEMBLY



Ref. No.	Part No.	Description
1	484588	Seat Assembly
2	484754	Armrest Kit, LH
3	484527	Seat Belt Kit
4	484528	Back Cover
5	484755	Armrest Kit, RH
6	484529	Cushion Cover
7	481638	Seat Switch
8	484608	Track Kit, 6”

NOTES

SCZ SUSPENSION SYSTEM

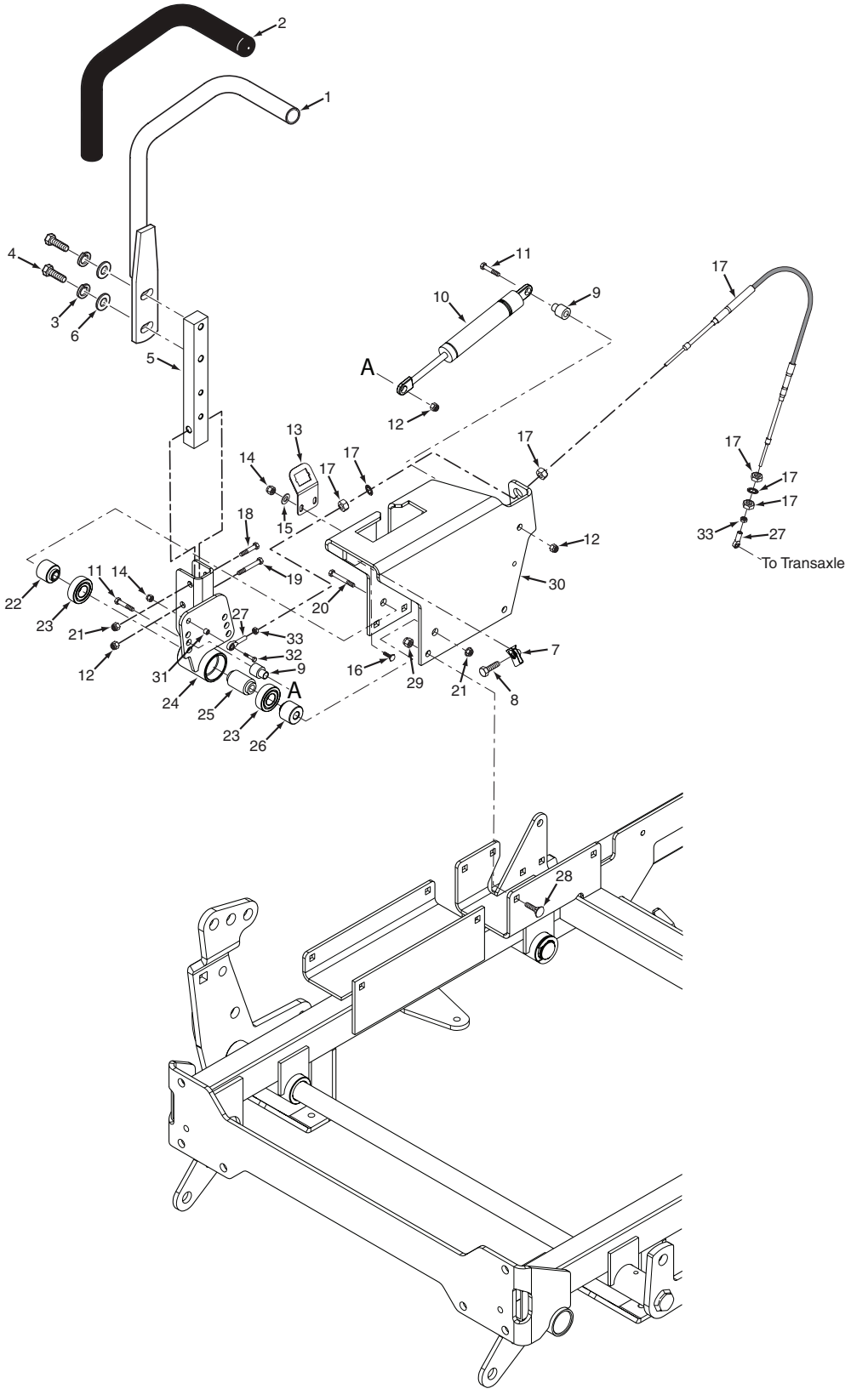


SCZ SUSPENSION SYSTEM

Ref. No.	Part No.	Description
1	484588	Seat Assembly
2	483559	Cable, Seat Stop
3	04001-59	Bolt, Hex Head 1/4-20 x 1-1/4”
4	04019-02	Nut, Serrated Flange 1/4-20
5	43606	Sleeve, Seat Base Mount
6	04001-45	Bolt, Hex Head 3/8-16 x 2”
7	04041-07	Flatwasher, 3/8-.391 x .938 x .105
8	04021-09	Nut, Elastic Stop 3/8-16
9	483371	Spring, Seat Latch
10	452143	Latch Weldment, Seat
11	04001-100	Bolt, Hex Head 3/8-16 x 6”
12	04019-03	Nut, Serrated Flange 5/16-18
13	452147	Seat Plate Weldment
14	462262	Seat Mounting Plate Weldment w/Decal
15	484148	Isolator, Seat
16	04001-46	Bolt, Hex Head 3/8-16 x 2-1/4”
17	04001-08	Bolt, Hex Head 5/16-18 x 3/4”
18	425566	Cover, Foot Plate
19	452152	Shaft Weldment, Rear Op. Platform Pivot
20	04001-09	Bolt, Hex Head 5/16-18 x 1”
21	04001-20	Bolt, Hex Head 3/8-16 x 1-1/2”
22	04030-04	Lockwasher, 3/8” Spring
23	43086	Bushing
24	484035	Bearing
25	425257	Link, Suspension Seat Tensioner
26	484201	Bumper, Rubber

Ref. No.	Part No.	Description
27	04041-38	Flatwasher, 3/8-.406 x 2.25 x .188
28	04001-19	Bolt, Hex Head 3/8-16 x 1”
29	452150	Pin Weldment, Op Platform Lower Pivot
30	462267	Bracket, Suspension Adjustment w/Decal
31	04003-04	Bolt, Carriage 5/16-18 x 1”
32	462497	Seat Mounting Base Weldment w/Decal
33	462212	Suspension Pivot Assembly, Rear
34	483453-14	Bearing
35	04001-22	Bolt, Hex Head 3/8-16 x 2-3/4”
36	452154	Mount Weldment, Shock
37	484032	Shock Absorber, Suspension
38	484150	Mount, Suspension Shock
39	04021-18	Nut, Elastic Stop 3/8-24 Grade 8
40	452151	Pin Weldment, Op Platform Upper Pivot
41	04021-10	Nut, Elastic Stop 5/16-18
42	452107	Pivot Weldment, Suspension Tensioner
43	48796	Bearing, Self Align 5/8” ID
44	452106	Adjustment Lever, Suspension
45	484010	Knob
46	04020-12	Nut, Jam 3/8-16
47	04009-11	Bolt, Shoulder 3/8 x 1”
	04009-14	Bolt, Shoulder 3/8 x 3/8”
48	04050-05	Flatwasher, 3/8-.406 x .812 x .065
49	483601	Spring
50	462400	Suspension Pivot Assembly, Front

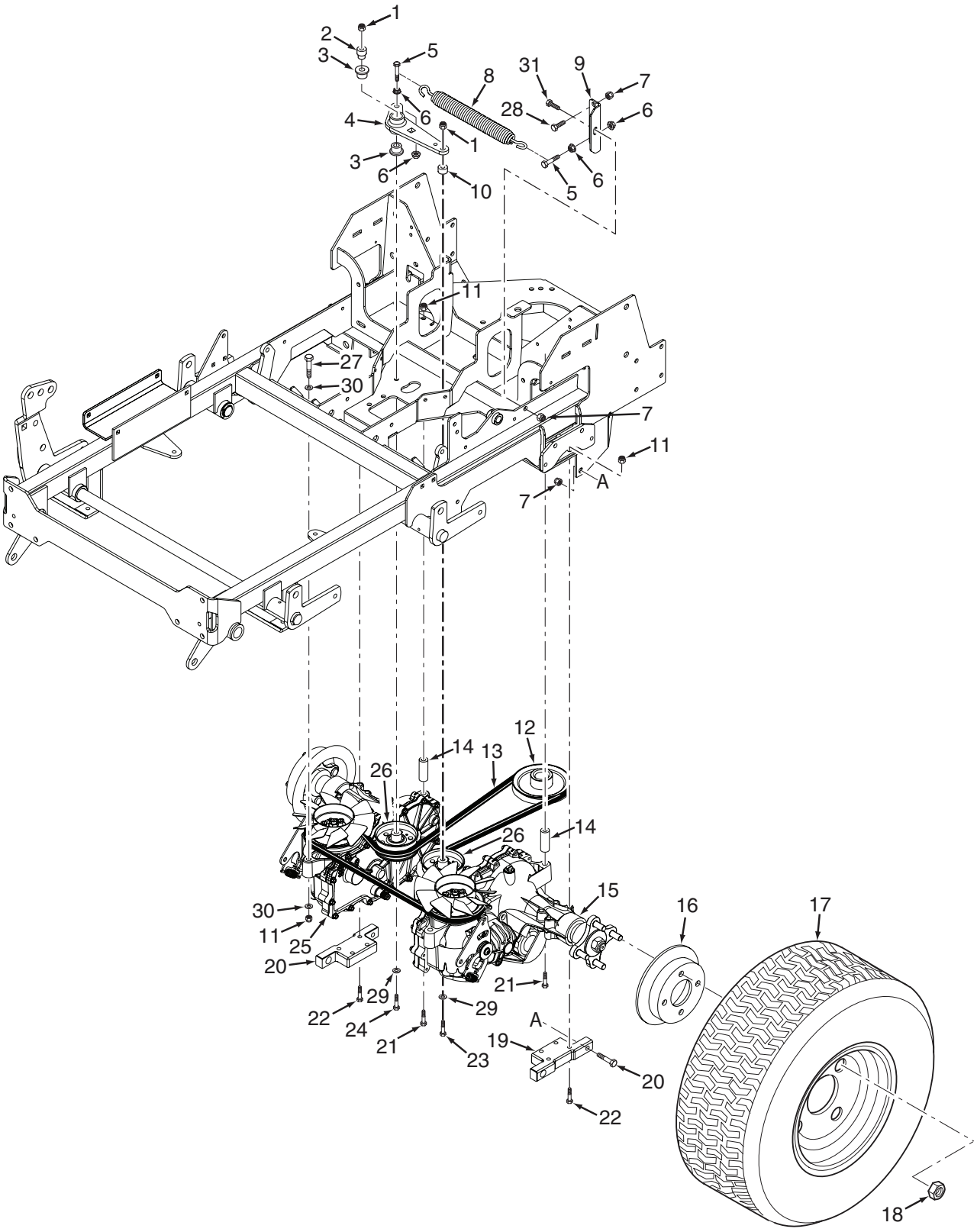
SCZ STEERING COMPONENTS



SCZ STEERING COMPONENTS

Ref. No.	Part No.	Description
1	462401	Handle Bar w/Grip
2	484376	Grip, Control Handle
3	04030-04	Lockwasher, 3/8” Spring
4	04001-32	Bolt, Hex Head 3/8-16 x 1-1/4’
5	422372	Bar, Control Lever
6	04041-07	Flatwasher, 3/8-.391 x .938 x .105
7	04110-03	U-Nut, 3/8-16
8	04107-04	Bolt, Hex Head 3/8-16 x 2” Special
9	43602	Spacer
10	484193	Damper
11	04001-11	Bolt, Hex Head 5/16-18 x 1-1/2”
12	04021-10	Nut, Elastic Stop 5/16-18
13	425905	Bracket, Operator Presence Switch
14	04021-08	Nut, Elastic Stop 1/4-20
15	04040-14	Flatwasher, 1/4-.312 x .750 x .065
16	04003-02	Bolt, Carriage 1/4-20 x 3/4”
17	484485	Control Cable, Hydro
18	04001-45	Bolt, Hex Head 3/8-16 x 2”
19	04001-17	Bolt, Hex Head 5/16-18 x 2”
20	04001-23	Bolt, Hex Head 3/8-16 x 4-1/2”
21	04021-09	Nut, Elastic Stop 3/8-16
22	43607	Spacer, Controls
23	48224	Bearing
24	452406	Pivot Weldment, Control Arm LH
	452407	Pivot Weldment, Control Arm RH
25	43600	Spacer, Bearing
26	43823	Spacer, Controls
27	484040	Rod End, 1/4-28 RH Thread
28	04003-04	Bolt,Carriage 5/16-18 x 1”
29	04019-03	Nut, Serrated Flange 5/16-18
30	462561	Bracket Weldment, Control Lever RH w/Decal
	462560	Bracket Weldment, Control Lever LH w/Decal
31	43827	Spacer
32	04001-59	Bolt, Hex Head 1/4-20 x 1-1/4”
33	04020-22	Nut, Jam 1/4-28 UNF

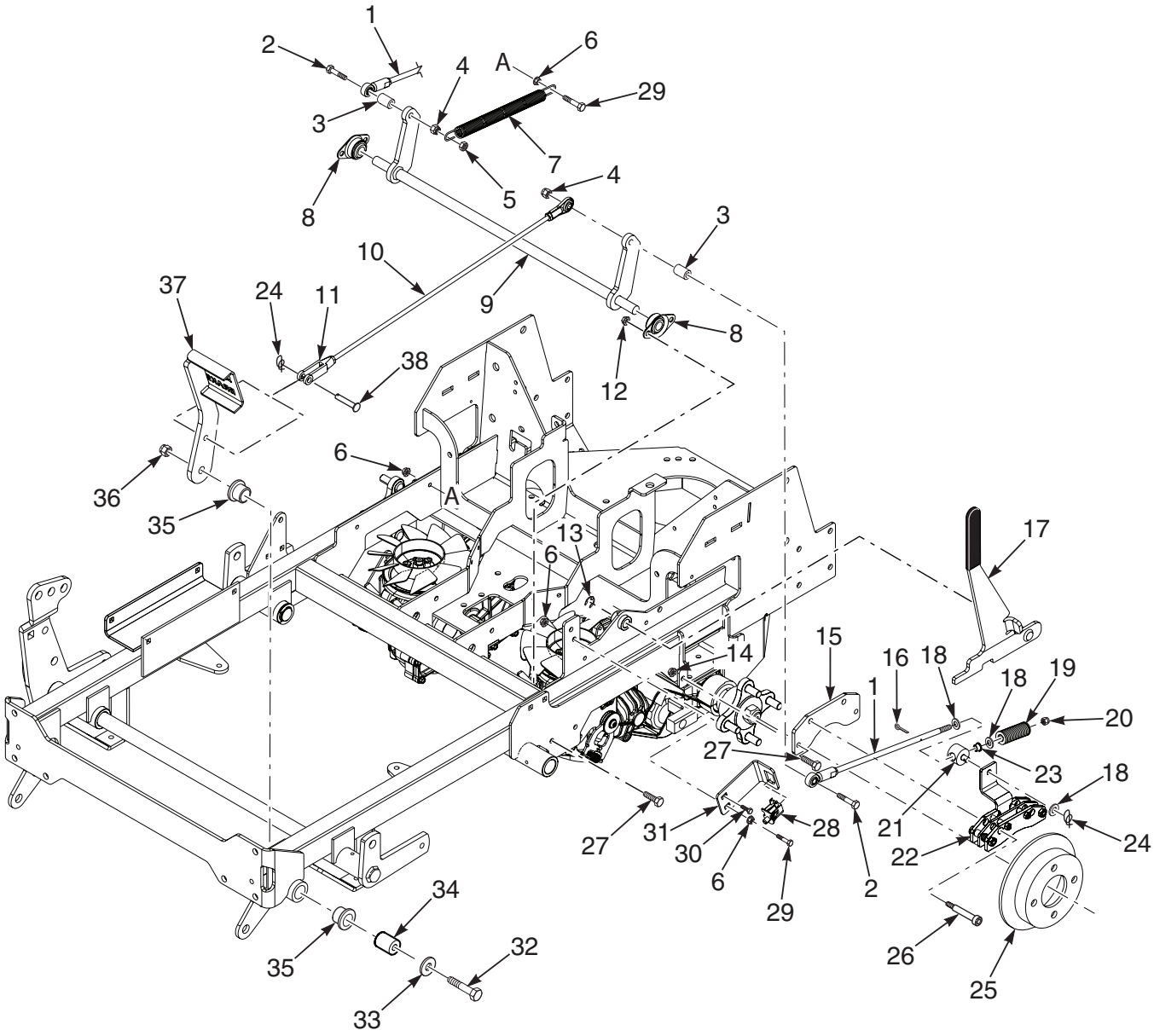
SCZ DRIVE SYSTEM COMPONENTS



SCZ DRIVE SYSTEM COMPONENTS

Ref. No.	Part No.	Description
1	04021-09	Nut, Elastic Stop 3/8-16
2	43715	Shaft, Pivot Idler Arm
3	483453-04	Bearing
4	462492	Idler Arm Assembly (incl. #3)
5	04001-136	Bolt, Hex Head 3/8-16 x 1-1/2” Grade 8
6	04019-04	Nut, Serrated Flange 3/8-16
7	04021-09	Nut, Elastic Stop 3/8-16
8	484560	Spring, Pump Drive
9	425907	Anchor Bracket, Pump Spring
10	43572	Spacer
11	04021-10	Nut, Elastic Stop 5/16-18
12	484373	Pulley, 5” Dia. - 1.125” Bore
13	484372	Belt, Pump Drive
14	43857	Spacer, Axle
15	484454	Transaxle, LH
16	43853	Spacer, Axle
17	484558	Wheel Assembly, 23 x 9.5-12 (48)
	481659	Rim (48)
	484466	Tire, 23 x 9.5-12
	484465	Wheel Assembly, 23 x 9.5-12 (52)
	482414	Rim (52)
18	04028-02	Wheel Nut, 1/2-20
19	484480	Mount, Pusharm
20	04001-142	Bolt, Hex Head 5/8-11 x 2-1/2”
21	04001-154	Bolt, Hex Head 5/16-18 x 4-3/4”
22	04001-76	Bolt, Hex Head 5/16-18 x 4”
23	04001-62	Bolt, Hex Head 3/8-16 x 3-1/4”
24	04001-152	Bolt, Hex Head 3/8-16 x 4-1/4”
25	484455	Transaxle, RH
26	483638	Pulley, 3-1/2” Idler
27	04001-39	Bolt, Hex Head 5/16-18 x 2-1/4”
28	04001-19	Bolt, Hex Head 3/8-16 x 1”
29	04043-04	Flatwasher, 3/8-.391 x .938 x .105 HD
30	04040-15	Flatwasher, 5/16-.375 x .875 x .083
31	04001-32	Bolt, Hex Head 3/8-16 x 1-1/4”

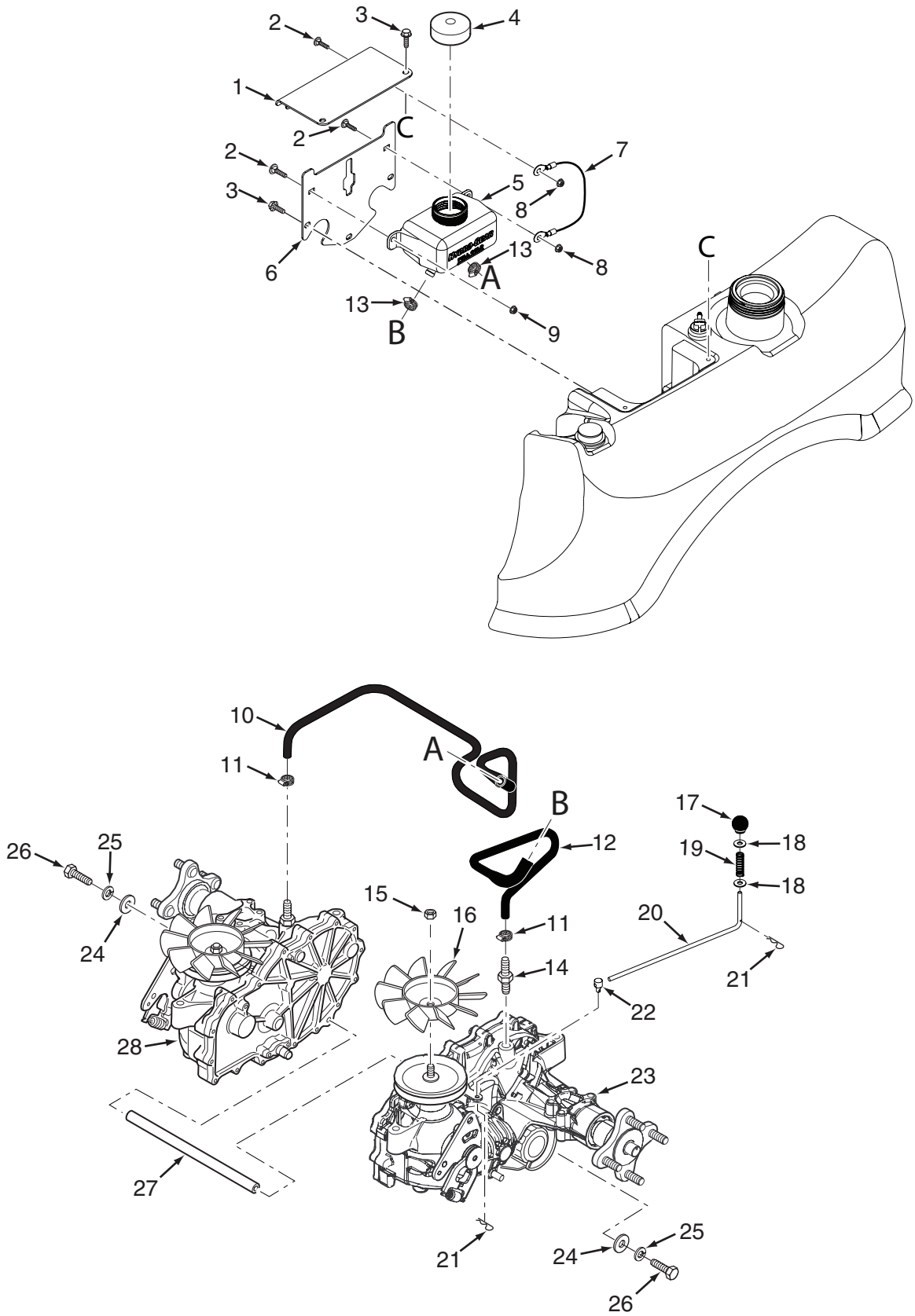
SCZ BRAKE COMPONENTS



SCZ BRAKE COMPONENTS

Ref. No.	Part No.	Description
1	462465	Brake Link Assembly (incl. #16, 18, 19, 20, 21)
2	04001-54	Bolt, Hex Head 3/8-16 x 3”
3	43572	Spacer
4	04021-09	Nut, Elastic Stop 3/8-16
5	04021-05	Nut, Center Lock 3/8-16
6	04019-02	Nut, Serrated Flange 1/4-20
7	484575	Spring, Brake Return
8	48796	Bearing, Self Align - 5/8” I.D.
9	452342	Brake Bellcrank Weldment
10	492001	Brake Rod Assembly
	483340	Rod End, 3/8-24 LH
	04020-26	Nut, 3/8-24 UNF LH Jam
11	48343-04	Clevis
	04020-25	Nut, 3/8-24 UNF Jam
12	04021-10	Nut, Elasticc Stop 5/16-18
13	04050-01	Retaining Ring, .625 Ext “E”
14	04019-03	Nut, Serrated Flange 5/16-18
15	425706	Mounting Bracket, Brake
16	04061-02	Cotter Pin, 3/32 x 3/4”
17	462466	Lever w/Grip, Parking Brake
	482102	Grip, Brake Lever
18	04040-05	Flatwasher, 3/8-.406 x .812 x .065
19	484535	Spring, Brake
20	04021-18	Nut, Elastic Stop 3/8-24
21	462452	Swivel Assembly, Brake
22	483701	Brake Caliper
23	483453-23	Bearing
24	04069-01	Pin, Rue Cotter - 3/8” Dia.
25	43853	Brake Hub
26	04009-10	Bolt, 1/2 x 2-3/4” Shoulder
27	04001-59	Bolt, Hex Head 5/16-18 x 3/4”
28	481638	Switch
29	04001-59	Bolt, Hex Head 1/4-20 x 1-1/4”
30	04003-07	Bolt, Carriage 1/4-20 x 1/2”
31	425858	Switch Mounting Bracket, Brake
32	04001-194	Bolt, Hex Head 1/2-13 x 4-1/4”
33	04040-13	Flatwasher, 1/2-.562 x 1.375 x .109
34	43872	Sleeve, Brake Pivot
35	483453-03	Bearing
36	04021-07	Nut, Elastic Stop 1/2-13
37	452327	Brake Pedal Weldment
38	04064-02	Clevis Pin, 3/8 x 1.06”

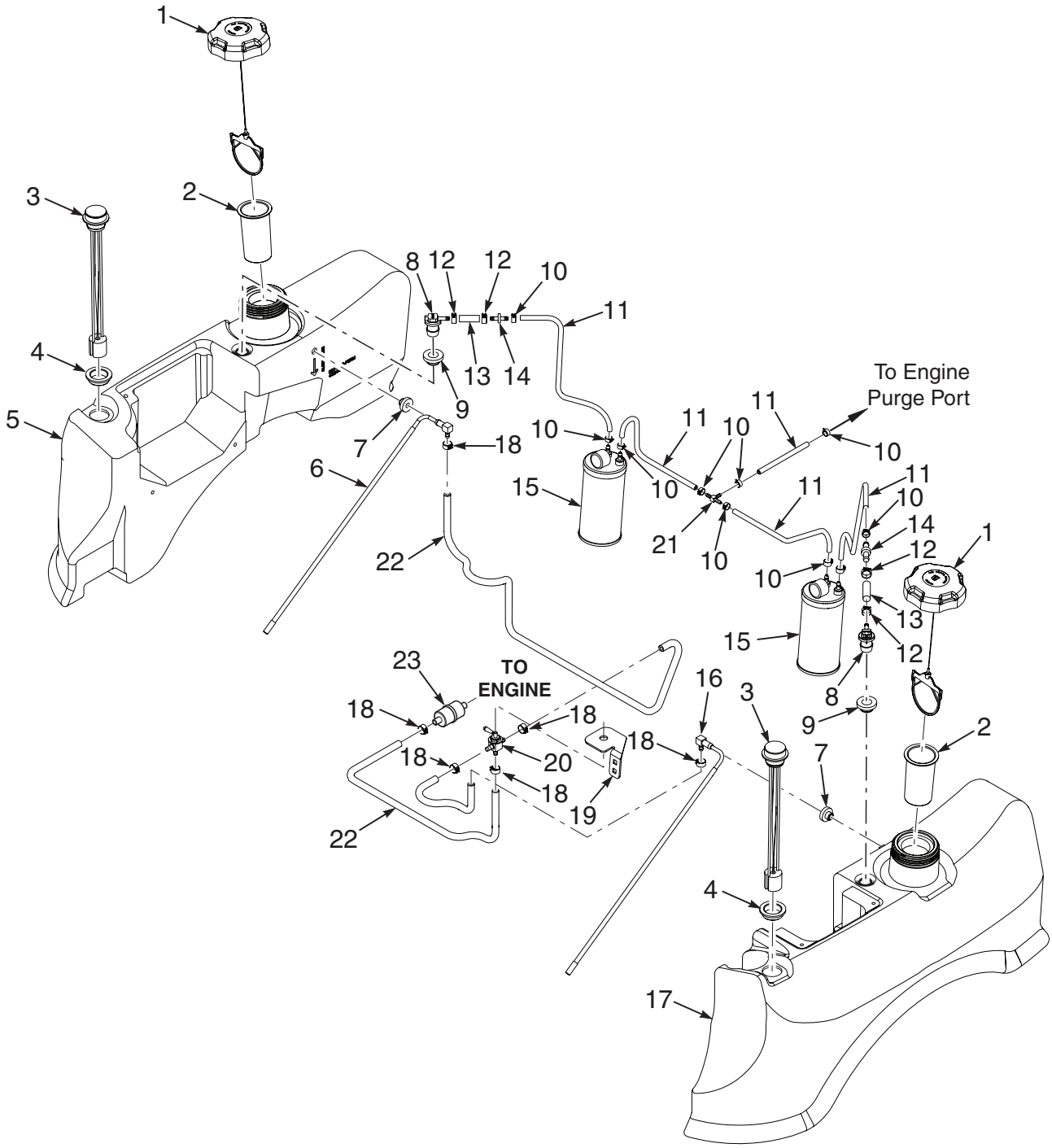
SCZ HYDRAULIC SYSTEM



SCZ HYDRAULIC SYSTEM

Ref. No.	Part No.	Description
1	425861	Cover, Oil Reservoir
2	04003-02	Bolt, Carriage 1/4-20 x 3/4”
3	04017-04	Bolt, Serrated Flange 1/4-20 x 1/2”
4	483514	Cap, Oil Reservoir
5	484517	Oil Reservoir Assembly (incl. #4)
6	425860	Mounting Bracket, Oil Reservoir
7	484196	Lanyard, Oil Reservoir Cover
8	04117-03	Nut, Flanged Elastic Stop 1/4-20
9	04021-08	Nut, Elastic Stop 1/4-20
10	484607	Hose, RH Transaxle
11	48136-13	Clamp, .69 Max Dia.
12	484537	Hose, LH Transaxle
13	48136-05	Clamp, .87 Max Dia.
14	482800-04	Fitting, Transmission
15	HG44133	Fan Nut
16		Fan (order through Hydro-Gear)
17	484573	Knob, Dump Lever
18	04040-14	Flatwasher, 1/4-.312 x .750 x .065
19	482070	Spring
20	44186	Linkage, Dump Valve
21	04062-02	Hair Pin Cotter
22	43876	Joint, Swivel
23	484454	Transaxle, LH
24	04041-07	Flatwasher, 3/8-.391 x .938 x .105
25	04030-04	Lockwasher, 3/8” Spring
26	04001-46	Bolt, Hex Head 3/8-16 x 2-1/4”
27	43864	Spacer, Axles
28	484455	Transaxle, RH

SCZ FUEL SYSTEM

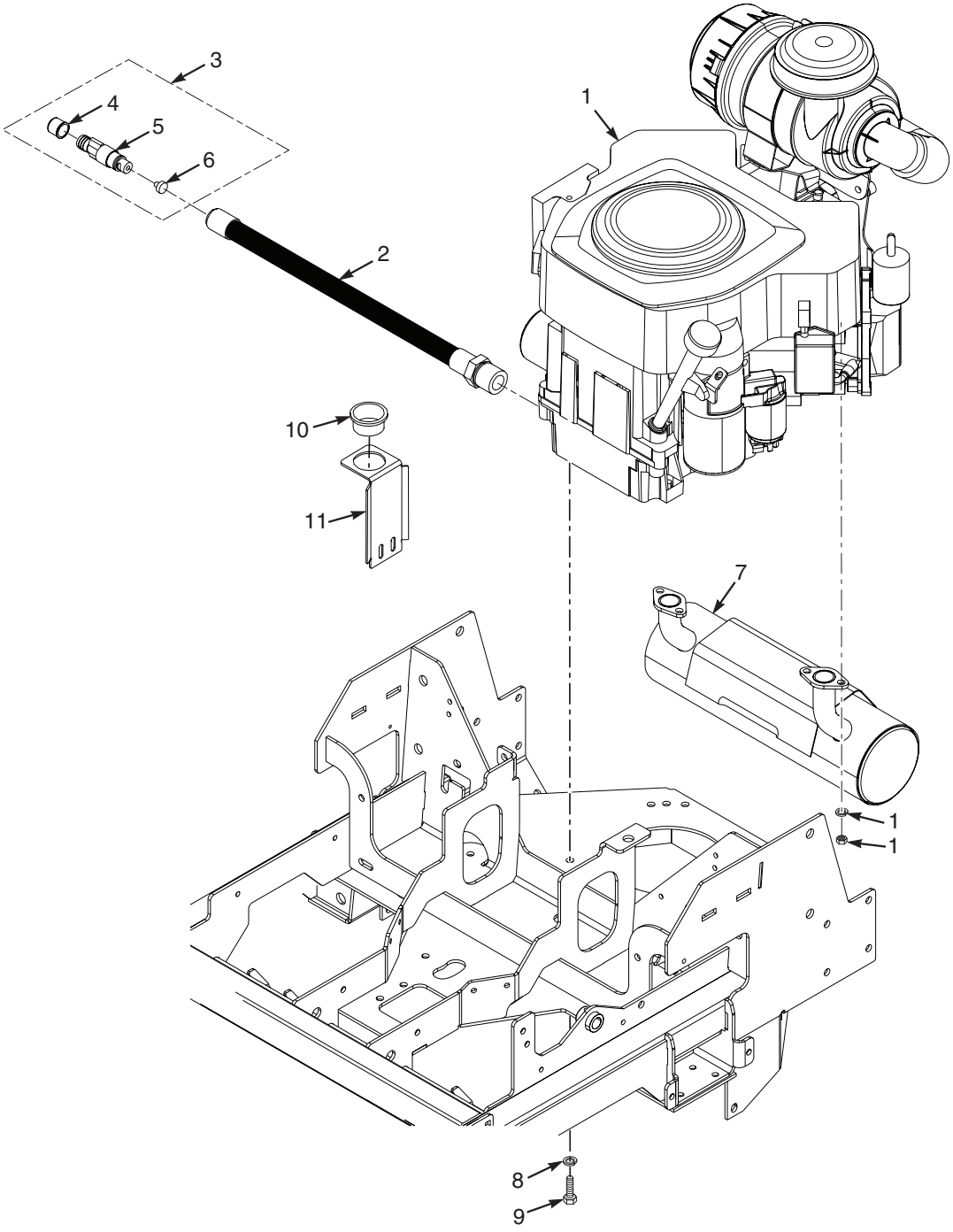


SCZ FUEL SYSTEM

Ref. No.	Part No.	Description
1	484286	Fuel Cap, Tethered
	484297	Fuel Cap, Tethered (California Only)
2	484279-01	Tube, Fuel Tank Insert - 4”
3	484323	Fuel Gauge Assembly (incl. #4)
4	484242	Seal, Fuel Gauge
5	462445	Fuel Tank Assembly, RH (incl. #3, 6, 7, 8, 9)
6	484553	Fuel Tube Assembly
7	482571	Bushing, .56 Viton
8	484333	Remote Vent
9	484285	Grommet, Viton
10	48059-15	Clamp, Vapor Recovery Hose
11	484345	Hose, 3/16” (order by inch)
12	48059-02	Clamp, Fuel Hose 7/32
13	484347	Hose, Vapor Recovery (order by inch)
14	484343-01	Mender, 1/4 x 3/16
15	484287	Carbon Canister, 400cc
	484366	Dust Filter, Carbon Canister
16	484552	Fuel Tube Assembly, LH
17	462444	Fuel Tank Assembly, LH (incl. # 3, 7, 8, 9, 16)
18	48059-01	Clamp, Fuel Hose 1/4” I.D.
19	425886	Mounting Bracket, Fuel Valve
20	482212	Valve, Fuel Shut Off
21	48935-02	Tee, 3/16 x 3/16 x 3/16 Union, Hose Barb
22	483617	Hose, Non-Perm Fuel 1/4” I.D.
23	**	Fuel Filter

** Available through the individual engine manufacturer.

SCZ ENGINE & ATTACHING PARTS

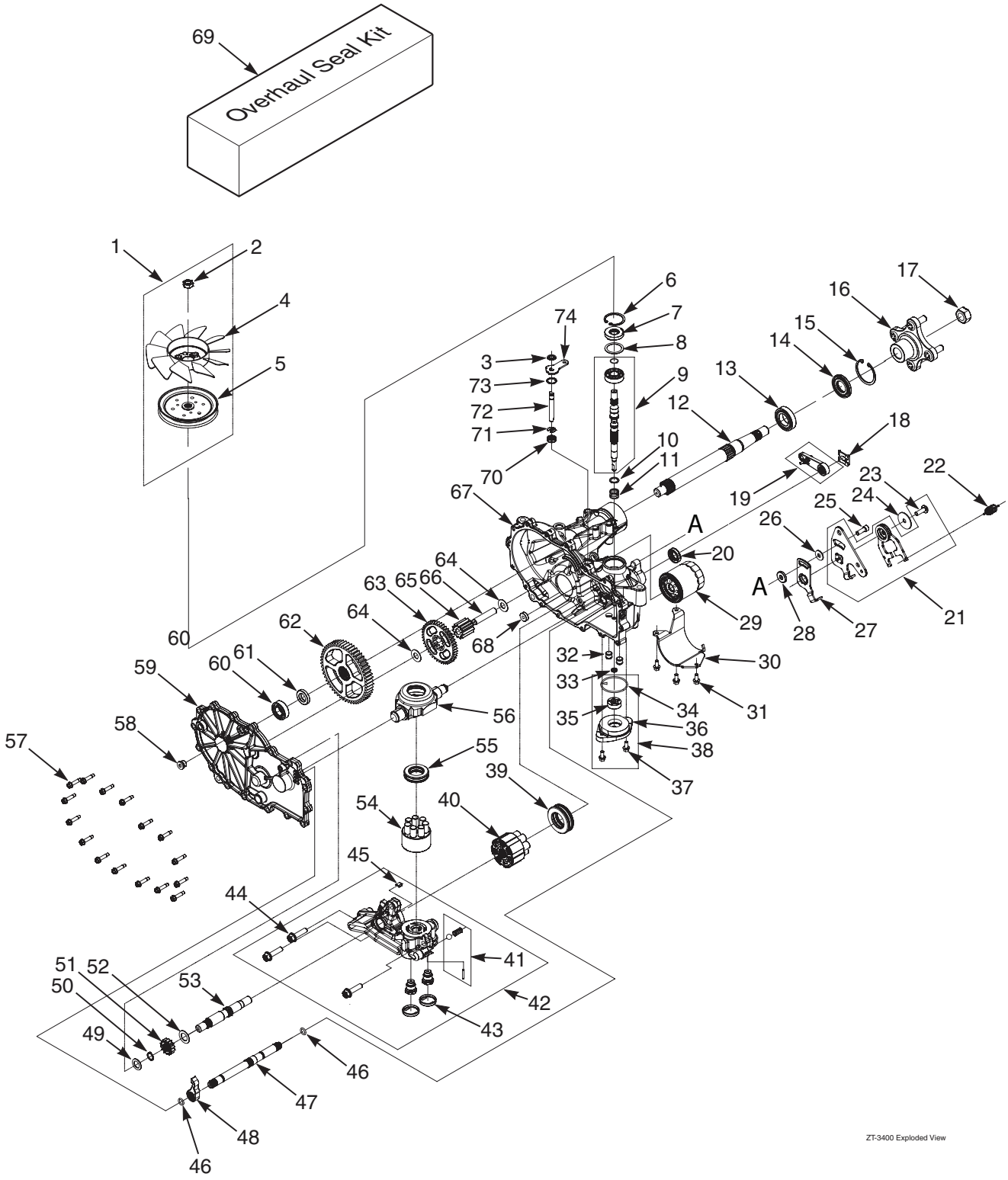


SCZ ENGINE & ATTACHING PARTS

Ref. No.	Part No.	Description
1	**484414	Engine, Kawasaki 22FX (FX691V)
	**484226	Engine, Kohler 23CV (CV730)
	**484689	Engine, Kohler 23CV-EFI (ECV730)
	**484415	Engine, Kawasaki 23FX (FX730V)
	**484227	Engine, Kohler 25CV (CV740)
	**484690	Engine, Kohler 25CV-EFI (ECV740)
	**484561	Engine, Briggs & Stratton 26BS (44L977)
2	484581	Hose Assembly, Engine Oil Drain - Kawasaki FS/FX (incl. #3, 4, 5, 6)
	484628	Hose, Oil Drain - Briggs & Stratton ELS (incl. #3, 4, 5, 6)
	484610	Hose, Oil Drain - Kohler CV (incl. #3, 4, 5, 6)
3	484593	Valve Assembly, Oil Drain
4	484585	Cap
5	48603-12	O-Ring
6	484586	Seal
7	484751	Muffler, Kawasaki FS/FX
	484567	Muffler, Briggs & Stratton
	484568	Muffler, Kohler CV
	484650	Muffler, Kohler ECV (EFI)
8	04030-04	Lockwasher, 3/8” Spring (Kawasaki)
9	04001-32	Bolt, Hex Head 3/8-16 x 1-1/4” (Kawasaki)
	04011-07	Bolt, Hex Head 3/8-16 x 1-1/4” Self Tap (Briggs and Kohler)
	04001-11	Bolt, Hex Head 5/16-18 x 1-1/2” (Right Front Engine Mounting, Briggs and Kohler Only)
	04019-03	Nut, Serrated Flange 5/16-18 (Right Front Engine Mounting, Briggs and Kohler Only)
10	484617	Bushing, Thick Panel Snap
11	426040	Bracket, Oil Drain Hose

** Available through the individual engine manufacturer.

ZT-3400 TRANSAXLE ASSEMBLY

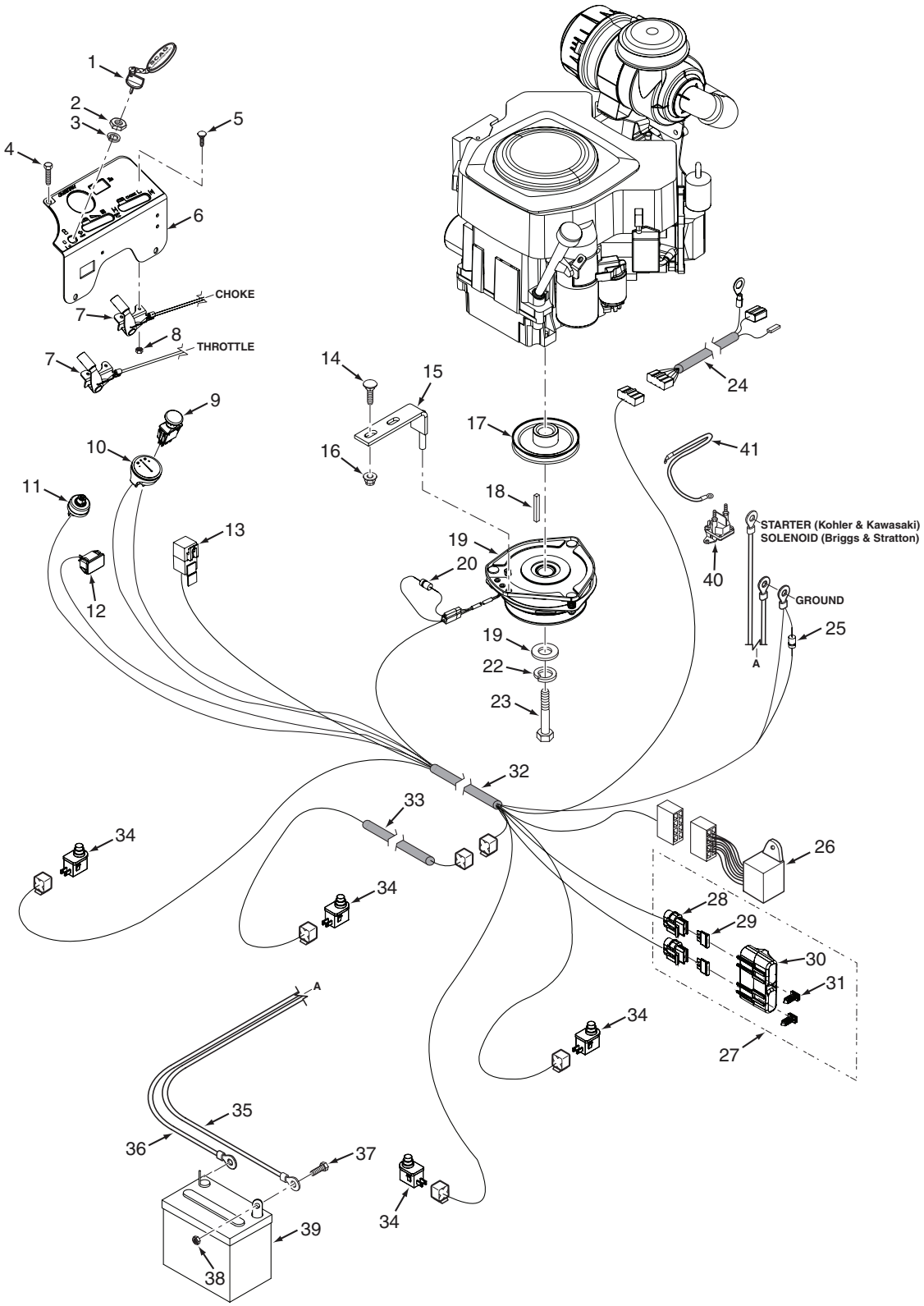


ZT-3400 TRANSAXLE ASSEMBLY

Ref. No.	Part No.	Description
1	HG71907	Kit, Fan & Pulley
2	HG44133	Nut, Elastic Stop 1/2-20
3	HG51523	Washer, OD Slotted .53 x 1.63 x .06
4	HG52747	Fan, 7" (10 Blade)
5	HG53435	Pulley"
6	HG53029	Ring, Retaining
7	HG51161	Seal, Lip 17 x 40 x 7
8	HG50951	Washer, 1.23 x 1.56 x .04
9	HG71978	Kit, Input Shaft
10	HG2003017	Washer, Flat .59 x .79 x .04
11	HG2003014	Spring, Block
12	HG53528	Shaft, Axle
13	HG50771	Bearing, Ball 25.4 x 52 x 15
14	HG50772	Seal, Lip 1 x 2.049 x .375
15	HG50859	Ring, Retaining 2.06 Internal
16	HG71405	Hub, 4-Bolt
17	HG50863	Nut, Hex Lock 3/4-16
18	HG52027	Clip, Retaining
19	HG52639	Handle, Brake Actuating
20	HG51140	Seal, Lip 12 x 32 x 7
21	HG71595	Kit, RTN Bi-Directional (Left Side)
	HG71598	Kit, RTN Bi-Directional (Right Side)
22	HG51605	Spring, RTN
23	HG51812	Bolt, Hex Head Cap Screw 5/16-24 x 1" Patch
24	HG51950	Washer, .343 x 1.5 x .062
25	HG51616	Bolt, Hex Head Cap Screw 5/16-24 x 1" Patch
26	HG44130	Washer, .34 x .88 x .06
27	HG51945	Arm, Neutral (Right Side)
	HG51946	Arm, Neutral (Left Side)
28	HG52527	Spacer, .320 x 1.005 x .179
29	HG52114	Filter, Oil
30	HG52257	Guard, Filter (Right Side)
	HG52247	Guard, Filter (Left Side)
31	HG53464	Screw, Hex Flange 1/4-20 x .625
32	HG52157	Tibe, Connecting
33	HG53456	Seal, Lip 8 x 12 x 3-VC
34	HG52250	O-Ring, -137 x .103 x 2.050
35	HG50273	Gerotor Assembly (1.9 cc)
36	HG53468	Cover, Charge Pump
37	HG53464	Screw, Hex Flange 1/4-20 x .625
38	HG71977	Kit, Charge Pump
39	HG51462	Bearing, Thrust

Ref. No.	Part No.	Description
40	HG71579	Assembly, Cylinger Block
41	HG71436	Kit, Charge Relief
42	HG71972	Kit, Center Section (Right Side)
	HG71973	Kit, Center Section (Left Side)
43	HG52162	Seal, Plug 1.250 x .250
44	HG52137	HFHCS, 3/8-16 X 1-1/2" Patch
45	HG51448	Plate, By-Pass
46	HG51804	O-Ring, -111 x .103 x 424
47	HG42640	Shaft, Brake
48	HG52776	Pawl, Brake
49	HG44371	Washer, .63 x 1 x .05
50	HG44145	Ring, Retaining .625
51	HG52342	Gear, 13T Steel
52	HG51069	Washer, .72 x 1.16 x .04
53	HG52150	Shaft, Motor
54	HG71971	Assembly, Block 7 Piston
55	HG53502	Bearing, Thrust
56	HG51048	Trunnion, Swashplate
57	HG53246	HFHCS, 1/4-20 x 1-1/8"
58	HG9005110 -5600	Plug, 9/16-18
59	HG71990	Kit, Cover (Right Side)
	HG71992	Kit, Cover (Left Side)
60	HG44121	Bearing, Ball .75 x 40 x 12
61	HG53336	Spacer, .750 x 1.320 x .257
62	HG43327	Gear, 54T
63	HG52110	Gear, 45T
64	HG50132	Washer, .5 X 1 X .03
65	HG52341	Gear, 14T Steel
66	HG51083	Jackshaft Pin
67	HG72025	Kit, Housing Main (Right Side)
	HG72026	Kit, Housing Main (Left Side)
68	HG51100	Magnet, Ring
69	HG71976	Seal Kit
70	HG51626	Seal, Lip .375 x .75 x .25
71	HG51628	Ring, Retaining .375 External
72	HG52136	Rod, By-Pass
73	HG51677	Ring, Retaining .750 Internal
74	HG51629	Arm, By-Pass
75	HG51630	Ring, Retaining .375 External

SCZ ELECTRICAL SYSTEM

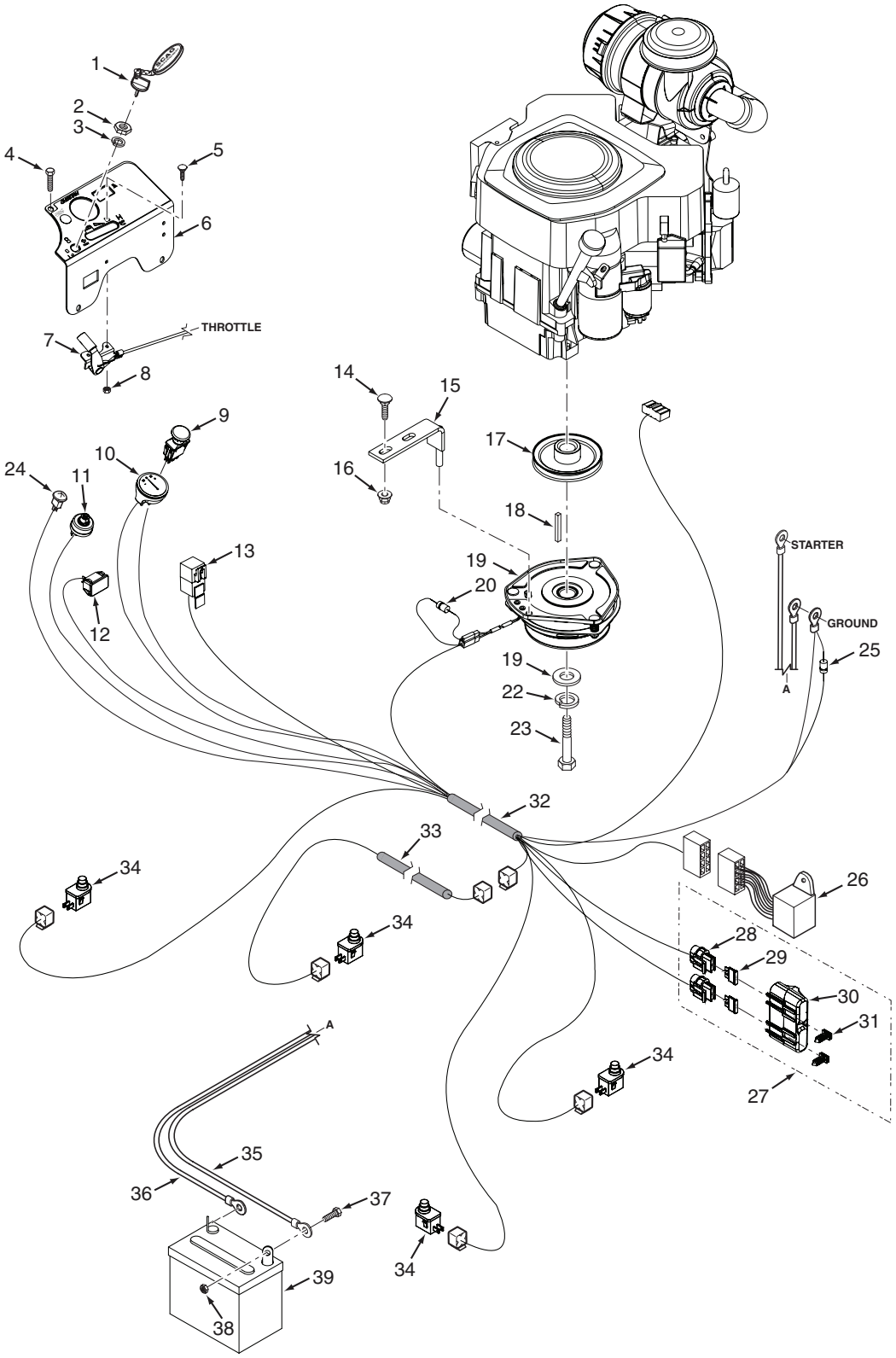


SCZ ELECTRICAL SYSTEM

Ref. No.	Part No.	Description
1	483366	Key, Ignition
	462069	Key Assembly w/Fob
2	48017-04	Nut, Hex 5/8-32
3	48017-03	Lockwasher, 5/8" Internal
4	04017-04	Bolt, Hex Head Serrated Flange 1/4-20 x 1/2"
5	04003-43	Bolt, Carriage #10-24 x 1/2"
6	462496	Instrument Panel w/Decal
7	481544	Control Cable
8	04021-26	Locknut, #10-24
9	483957	Switch, PTO
10	481755	Ammeter
11	48798	Switch, Starter
12	484565	Hourmeter
13	483013	Relay
14	04003-12	Bolt, Carriage 5/16-18 x 3/4"
15	452291	Anti-Rotation Weldment
16	04117-01	Nut, Flange Elastic Stop 5/16-18
17	484373	Pulley, 5" Dia. - 1.125 Bore
18	04063-28	Key, 1/4 x 1/4 x 3-1/2"
19	484276	Clutch, GT3.5 - 1.125 Bore
20	483958	Diode, 600V - 6A
21	04041-28	Flatwasher, 7/16-.469 x 1.75 x .25
22	04030-05	Lockwasher, 7/16" Spring
23	04102-03	Bolt, Hex Head 7/16-20 x 2-1/4" w/Patch
24	482543	Wire Harness Adapter, Kawasaki
	484078	Wire Harness Adapter, Kohler
	482836	Wire Harness Adapter, Briggs & Stratton
25	482253	Diode
26	483599	Electronic Module
27	483642	Double Fuse Assy. (incl. #28, 29, 30, 31)
28	483629	Fuse Holder
29	48298	Fuse, 20 Amp
30	483571	Cover, Sealed Double
31	482588	Clip, Wire
32	484723	Wire Harness, SCZ48/52
33	484722	Wire Harness, Operator Platform
34	481638	Switch
35	48029-13	Battery Cable, 25" Red (Kawasaki)
36	48029-11	Battery Cable, 27" Black
37	04001-44	Bolt, Hex Head 1/4-20 x 1/2"
38	04020-02	Nut, 1/4-20 UNC
39	*	Battery, 350 CCA
40	483278	Solenoid, Sealed (Briggs & Stratton)
41	48029-09	Battery Cable, Red 9" (Briggs & Stratton)

* Not available through Scag

SCZ EFI ELECTRICAL SYSTEM



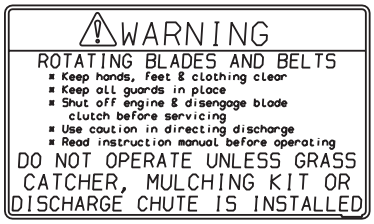
SCZ EFI ELECTRICAL SYSTEM

Ref. No.	Part No.	Description
1	483366	Key, Ignition
	462069	Key Assembly w/Fob
2	48017-04	Nut, Hex 5/8-32
3	48017-03	Lockwasher, 5/8" Internal
4	04017-04	Bolt, Hex Head Serrated Flange 1/4-20 x 1/2"
5	04003-43	Bolt, Carriage #10-24 x 1/2"
6	462XXX	Instrument Panel w/Decal
7	481544	Control Cable
8	04021-26	Locknut, #10-24
9	483957	Switch, PTO
10	481184	Voltmeter
11	48798	Switch, Starter
12	484565	Hourmeter
13	483013	Relay
14	04003-12	Bolt, Carriage 5/16-18 x 3/4"
15	452291	Anti-Rotation Weldment
16	04117-01	Nut, Flange Elastic Stop 5/16-18
17	484373	Pulley, 5" Dia. - 1.125 Bore
18	04063-28	Key, 1/4 x 1/4 x 3-1/2"
19	462339	Clutch, GT3.5 - 1.125 Bore
20	483958	Diode, 600V - 6A
21	04041-28	Flatwasher, 7/16-.469 x 1.75 x .25
22	04030-05	Lockwasher, 7/16" Spring
23	04102-03	Bolt, Hex Head 7/16-20 x 2-1/4" w/Patch
24	481182	Indicator Light
25	482253	Diode
26	483599	Electronic Module
27	483642	Double Fuse Assy. (incl. #28, 29, 30, 31)
28	483629	Fuse Holder
29	48298	Fuse, 20 Amp
30	483571	Cover, Sealed Double
31	482588	Clip, Wire
32	484726	Wire Harness, SCZ-EFI
33	484722	Wire Harness, Operator Platform
34	481638	Switch
35	48029-13	Battery Cable, 25" Red (Kawasaki)
36	48029-11	Battery Cable, 27" Black
37	04001-44	Bolt, Hex Head 1/4-20 x 1/2"
38	04020-02	Nut, 1/4-20 UNC
39	*	Battery, 350 CCA

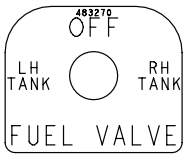
* Not available through Scag

REPLACEMENT DECALS AND INFORMATION PLATES

1

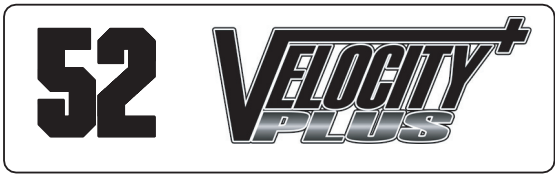

WARNING
ROTATING BLADES AND BELTS
Keep hands, feet & clothing clear
Keep all guards in place
Shut off engine & disengage blade clutch before servicing
Use caution in directing discharge
Read instruction manual before operating
DO NOT OPERATE UNLESS GRASS CATCHER, MULCHING KIT OR DISCHARGE CHUTE IS INSTALLED

2



10

6

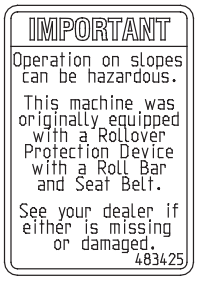


3

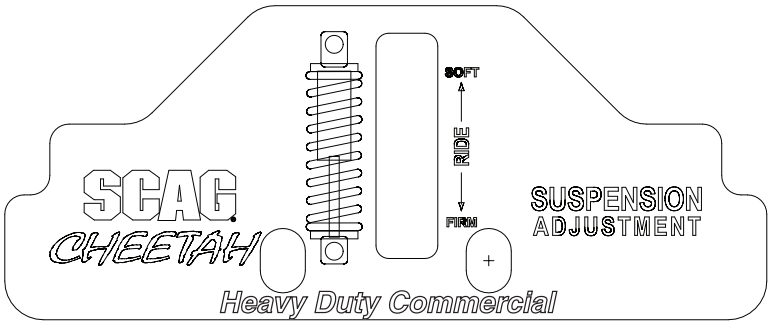
9

8

11

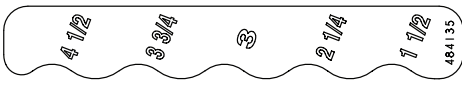

IMPORTANT
Operation on slopes can be hazardous.
This machine was originally equipped with a Rollover Protection Device with a Roll Bar and Seat Belt.
See your dealer if either is missing or damaged.
483425

5



12

13

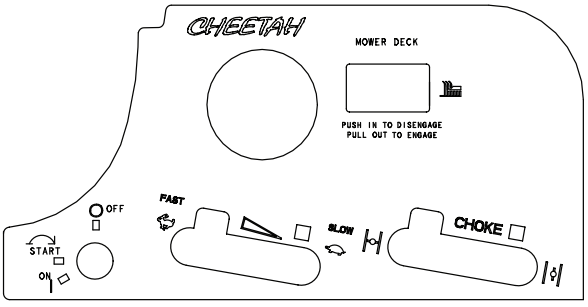


14

SCZ48 Decals 1

REPLACEMENT DECALS AND INFORMATION PLATES

Ref. No.	Part No.	Description
1	483407	Decal, Spinning Blades
2	483406	Decal, Knives
3	483199	Decal, 48" Velocity Plus
	483200	Decal, 52" Velocity Plus
4	483633	Decal, Seat Replacement
5	483425	Decal, ROPS
6	482100	Decal, Traction Control
7	483405	Decal, Warning
8	48404	Decal, Made in USA
9	483402	Decal, Belt Cover
10	483270	Decal, Fuel Shut Off
11	484126	Decal, Scag Cheetah
	484694	Decal, Scag Cheetah - Electronic Fuel Injection (not shown)
12	484127	Decal, Suspension Adjustment
13	484134	Decal, Deck Height - LH
14	484135	Decal, Deck Height - RH
15	484564	Decal, Instrument Panel - SCZ
	484613	Decal, Instrument Panel - SCZ-EFI (not shown)
16	484520	Decal, Cheetah
17	484180	Decal, Start / Drive
18	484244	Decal, Adjustments - SCZ
19	483425	Decal, ROPS
**	462373	Spanish Decal Kit, SCZ (not shown)
	01411	DVD Video, Tips for Safe Operation of Your Scag Zero-Turn Mower

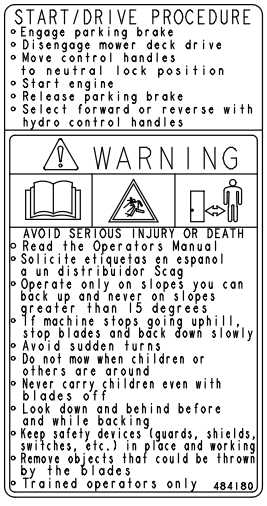


15

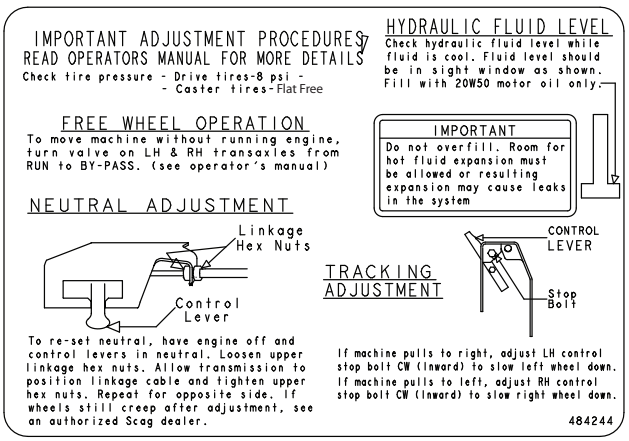
7

WARNING
Replace seat only with Scag approved seat with seat mounting provisions and Scag approved seat belts.
Failure to follow these directions could result in injury or death in the event of a rollover.

4


START/DRIVE PROCEDURE
Engage parking brake
Disengage mower deck drive
Move control handles to neutral lock position
Start engine
Release parking brake
Select forward or reverse with hydro control handles
WARNING
AVOID SERIOUS INJURY OR DEATH
Read the Operators Manual
Solicite etiquetas en espanol a un distribuidor Scag
Operate only on slopes you can back up and never on slopes greater than 15 degrees
If machine stops going uphill, stop blades and back down slowly
Avoid sudden turns
Do not mow when children or others are around
Never carry children even with blades off
Look down and behind before and while backing
Keep safety devices (guards, shields, switches, etc.) in place and working
Remove objects that could be thrown by the blades
Trained operators only
484180

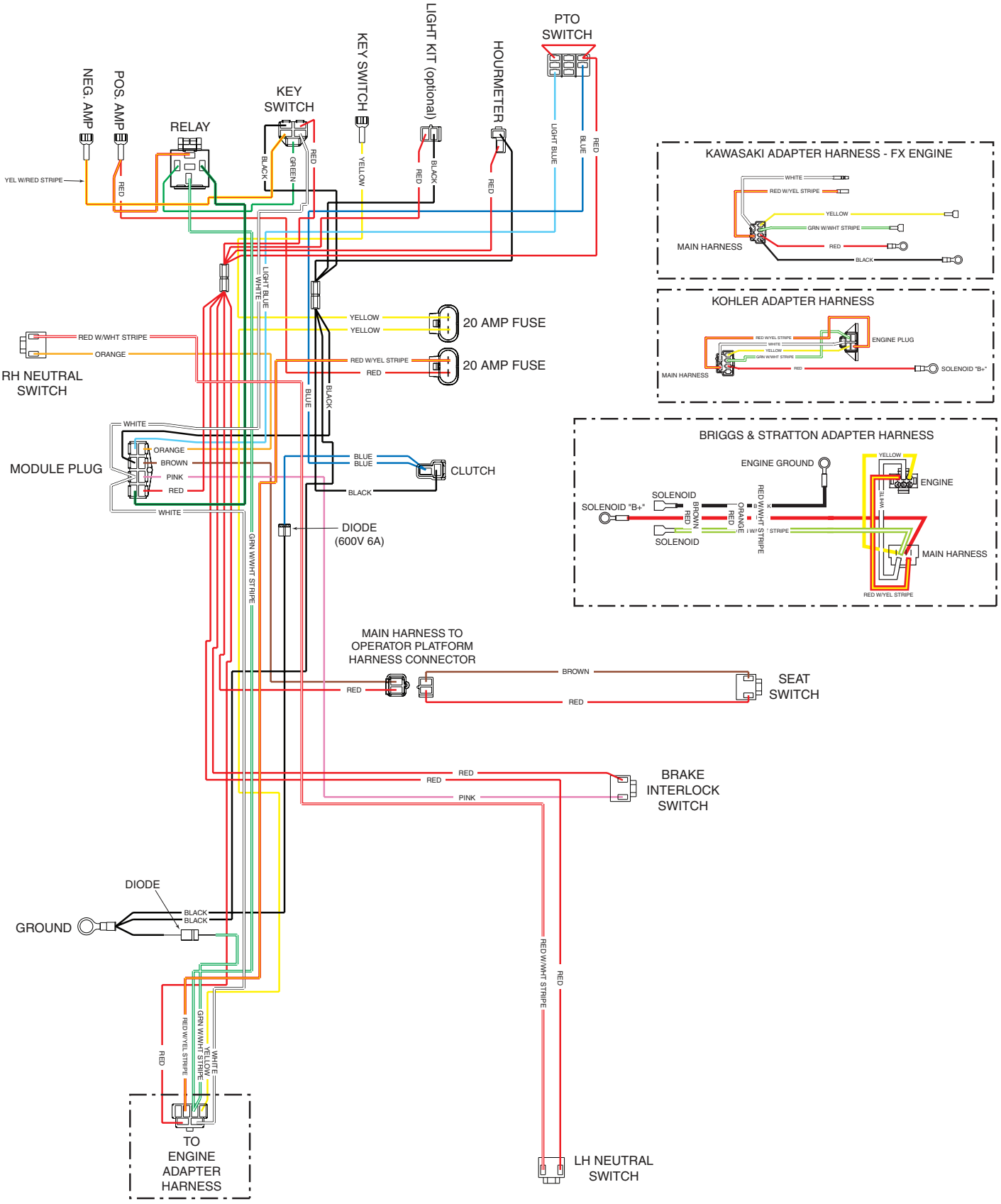
17


IMPORTANT ADJUSTMENT PROCEDURES
READ OPERATORS MANUAL FOR MORE DETAILS
Check tire pressure - Drive tires-8 psi -
- Caster tires- Flat Free
HYDRAULIC FLUID LEVEL
Check hydraulic fluid level while fluid is cool. Fluid level should be in sight window as shown.
Fill with 20W50 motor oil only.
FREE WHEEL OPERATION
To move machine without running engine, turn valve on LH & RH transaxles from RUN to BY-PASS. (see operator's manual)
IMPORTANT
Do not overfill. Room for hot fluid expansion must be allowed or resulting expansion may cause leaks in the system
NEUTRAL ADJUSTMENT
Linkage Hex Nuts
Control Lever
To re-set neutral, have engine off and control levers in neutral. Loosen upper linkage hex nuts. Allow transmission to position linkage cable and tighten upper hex nuts. Repeat for opposite side. If wheels still creep after adjustment, see an authorized Scag dealer.
TRACKING ADJUSTMENT
CONTROL LEVER
Stop Bolt
If machine pulls to right, adjust LH control stop bolt CW (inward) to slow left wheel down.
If machine pulls to left, adjust RH control stop bolt CW (inward) to slow right wheel down.
484244

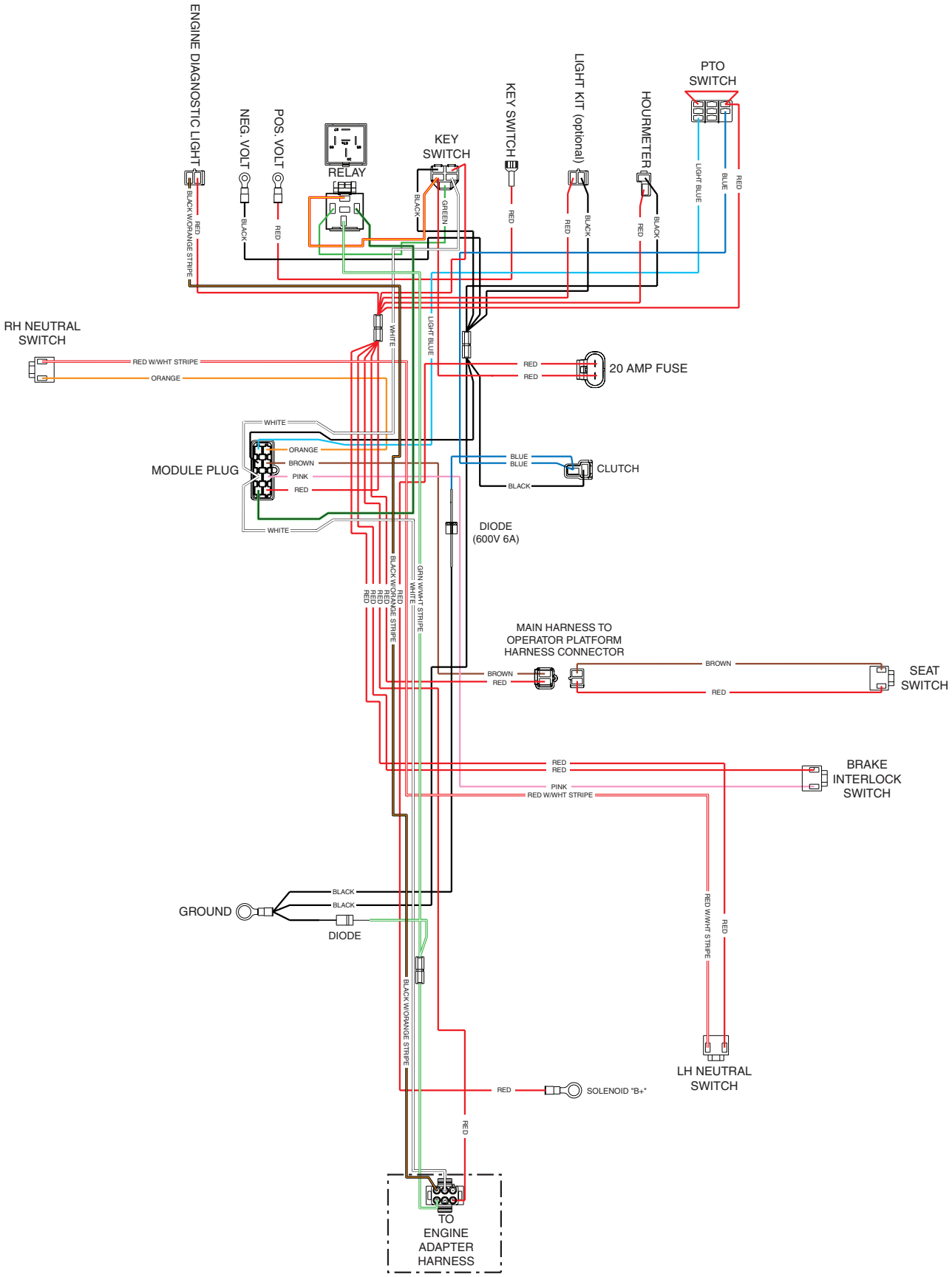
18

16

SCZ ELECTRICAL SCHEMATIC



SCZ EFI ELECTRICAL SCHEMATIC



LIMITED WARRANTY - COMMERCIAL EQUIPMENT

Any part of the Scag commercial mower manufactured by Scag Power Equipment and found, in the reasonable judgment of Scag, to be defective in materials or workmanship, will be repaired or replaced by an Authorized Scag Service Dealer without charge for parts and labor during the periods specified below. This warranty is limited to the original purchaser provided the product was purchased from an Authorized Scag Power Equipment Dealer and is not transferable. Proof of purchase will be required by the dealer to substantiate any warranty claims. All warranty work must be performed by an Authorized Scag Service Dealer.

This warranty is limited to the following specified periods from the date of the original retail purchase for defects in materials or workmanship:

- Wear items including drive belts, blades, hydraulic hoses and tires are warranted for ninety (90) days.
- Batteries are covered for ninety (90) days.
- Frame and structural components including oil reservoir and oil coolers are warranted for two (2) years (parts and labor) for commercial use or three (3) years / 500 hours (whichever comes first) (parts and labor) for non-commercial use.
- Cutter decks are warranted against cracking for a period of three (3) years. (parts and labor 1st and 2nd year; parts only 3rd year.) The repair or replacement of the cutter deck will be at the option of Scag Power Equipment. We reserve the right to request components for evaluation. This warranty does not cover any mower that has been subject to misuse, neglect, negligence, or accident, or that has been operated in any way contrary to the operating instructions as specified in the Operator's Manual.
- Engines and electric starters are covered by the engine manufacturer's warranty period.
- Major drive system components are warranted for two (2) years (parts and labor) for commercial use or three (3) year / 500 hour (whichever comes first) (parts and labor) for non-commercial use by Scag Power Equipment. (commercial and non-commercial warranty excludes fittings, hoses, drive belts). The repair or replacement of the hydraulic pump or hydraulic motor will be at the option of Scag Power Equipment. This warranty does not cover any mower that has been subject to misuse, neglect, negligence, or accident, or that has been operated in any way contrary to the operating instructions as specified in the Operator's Manual.
- Electric clutches have a Limited Warranty for two (2) years (parts and labor) for commercial use or three (3) year / 500 hours (whichever comes first) (parts and labor) for non-commercial use.
- Spindle assemblies have a Limited Warranty for three years (parts and labor 1st year and 2nd; parts only 3rd year).
- Any Scag product used for rental purposes is covered by a 90 day warranty.

The Scag mower, including any defective part must be returned to an Authorized Scag Service Dealer within the warranty period. The expense of delivering the mower to the dealer for warranty work and the expense of returning it to the owner after repair will be paid for by the owner. Scag's responsibility is limited to making the required repairs and no claim of breach of warranty shall be cause for cancellation or rescission of the contract of sale of any Scag mower. "Non-Commercial" use is defined as a single property owner, where the single property is the residence of the owner of the mower. If the mower is cutting more than the owners single property, it is deemed commercial use and the "non-commercial" warranty does not apply. Scag Power Equipment reserves the right to deny and / or void the non-commercial warranty if it believes it to be in commercial use.

This warranty does not cover any mower that has been subject to misuse, neglect, negligence, or accident, or that has been operated in any way contrary to the operating instructions as specified in the Operator's Manual. The warranty does not apply to any damage to the mower that is the result of improper maintenance, or to any mower or parts that have not been assembled or installed as specified in the Operator's Manual and Assembly Manual. The warranty does not cover any mower that has been altered or modified, changing performance or durability. In addition, the warranty does not extend to repairs made necessary by normal wear, or by the use of parts or accessories which, in the reasonable judgment of Scag, are either incompatible with the Scag mower or adversely affect its operation, performance or durability.

Scag Power Equipment reserves the right to change or improve the design of any mower without assuming any obligation to modify any mower previously manufactured. All other implied warranties are limited in duration to the two (2) year for commercial use, three (3) years / 500 hour for non-commercial use or ninety (90) days for mowers used for rental purpose. Accordingly, any such implied warranties including merchantability, fitness for a particular purpose, or otherwise, are disclaimed in their entirety after the expiration of the appropriate two year, three year / 500 hour or ninety day warranty period. Scag's obligation under this warranty is strictly and exclusively limited to the repair or replacement of defective parts and Scag does not assume or authorize anyone to assume for them any other obligation. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

Scag assumes no responsibility for incidental, consequential or other damages including, but not limited to, expense for gasoline, expense of delivering the mower to an Authorized Scag Service Dealer and expense of returning it to the owner, mechanic's travel time, telephone or telegram charges, rental of a like product during the time warranty repairs are being performed, travel, loss or damage to personal property, loss of revenue, loss of use of the mower, loss of time or inconvenience. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

© 2013
Scag Power Equipment
Division of Metalcraft of Mayville, Inc.